

# Prevention of Mother To Child Transmission (PMTCT)

## Baseline Survey

### Ethiopia

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**AED-LINKAGES**

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## ACRONYMS

AED	Academy for Educational Development
AFASS	Affordable, Feasible, Acceptable, Sustainable and Safe
AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Care
ARI	Acute Respiratory Infection
ARV	Anti-Retroviral (drugs)
BCC	Behavioral Changing Communication
BSS	Behavioral Surveillance Survey
CDC	Centers for Disease Control and Prevention
CF	Complementary Feeding
CHW	Community Health Worker
DHS	Demographic and Health Survey
EBF	Exclusive Breastfeeding
ENA	Essential Nutrition Actions
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System(s)
IF	Infant Feeding
IPT	Intermittent preventive therapy
ITN	Insecticide Treated Mosquito Net
IYCF	Infant and Young Child Feeding
KAP	Knowledge, Attitudes and Practices
LAM	Lactation Amenorrhea Method
MCH	Maternal and Child Health (Care)
MOH	Ministry of Health
MTCT	Mother-to-Child Transmission (of HIV)
MUAC	Measurement of Upper-Arm Circumference
NVP	Nevirapine
PMTCT	Prevention of Mother - To - Child Transmission (of HIV)
TBA	Traditional Birth Attendant
TIBF	Timely Initiation of Breastfeeding
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
USG	United States Government
VCT	Voluntary Counseling & Testing
WHO	World Health Organization

## EXECUTIVE SUMMARY

Mother-to-child transmission is the single most important source of HIV infection in children. Reducing transmission requires an increase in access to integrated and comprehensive program interventions focusing on primary prevention of HIV infection among women and their partners; prevention of unintended pregnancies among HIV-infected women; prevention of HIV transmission from HIV-infected women to their children; and the provision of treatment, care and support for women living with HIV and AIDS, their children and families. While provision of ARV prophylaxis may reduce the risk of intra-partum transmission, its effectiveness will most likely be reduced if other essential maternal and child health interventions are not in place.

This report describes a survey of 900 women with infants less than 12 months of age. The survey was implemented during April and May, 2004 using a two-stage cluster sampling approach to gather baseline data on behaviors related to PMTCT, infant and young child feeding, and women's nutrition. The survey was conducted in the catchment areas of 12 of the then 23 PMTCT sites of the MOH that are supported by the USG through the Hareg Partnership. In each region, the catchment populations of at least one hospital and one satellite site were included in the survey sampling frame. The baseline survey was designed to:

- Establish baseline measurements of core PMTCT, IYCF and women's nutrition indicators for the PMTCT program to measure the intervention outcomes
- Produce information that can be used by program managers to develop strategies for improving activities in the context of rapid PMTCT scale-up.
  - Access to ANC (including early access and number of visits),
  - Delivery practices
  - Postnatal care by women with infants less than 12 months
  - Infant feeding behaviors
  - Nutrition, and care & support of HIV positive women and their infants
  - Use of modern family planning methods,
  - Awareness of PMTCT
  - Acceptance of VCT by women with infants less than 12 months<sup>1</sup>.

## Main findings

### *Antenatal and Postnatal care*

More women surveyed (79%) in the PMTCT facilities' catchment areas had at least one ANC visit as compared with the Ethiopia DHS (67%, urban population only). The median gestational age at of first ANC visit was 4 months compared to 5.5 months in the DHS sample. Relatively high attendance of antenatal care, with average few visits 4 - 7 months and 4 visits per pregnancy implicate opportunities for care and testing. Of all women surveyed, 59% attended at least 4 ANC visits. This shows that there is opportunity to reach pregnant women through these PMTCT sites.

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<sup>1</sup> These outcomes measures included in the national framework are not currently collected in the HMIS or BSS.

More women in PMTCT catchment population delivered at a health facility (57%) than in the urban DHS sample (32%). Yet there remains a **significant proportion of women who deliver at home (43%)** and who are delivered by non-health facility providers and untrained professionals. This has implications for PMTCT programming, especially as the program goes to scale.

The survey findings show that **there is a major gap in the quality of antenatal and postnatal care**, particularly with respect to counseling and in the provision of preventive therapies.

At ANC, 33% of women received counseling on the benefits of exclusive breastfeeding, 30% received counseling on infant feeding options, 25% on HIV and breastfeeding, and 22% received an infant feeding demonstration. Similarly, 26% of ANC attendees received iron-folate supplementation during pregnancy. Only 12 % of the women received Vitamin A supplementation post-partum. These factors are particularly important to consider in the context of PMTCT both to reduce the risk of MTCT and to reduce further disease progression among HIV-positive women.

### ***Infant Feeding***

The current MOH infant feeding recommendation is the promotion of exclusive breastfeeding until six months of age in all populations to prevent child mortality and morbidity. In the context of HIV and AIDS, HIV-positive women need complete and accurate information about infant feeding options, and need to be counseled on replacement feeding only if milk substitutes are affordable and can be fed safely, and if adequate health care is available and affordable.

About half of all infants, **52%, initiated breastfeeding within the first hour of birth**; this is the same rate reported in the 2000 DHS. **Exclusive breastfeeding of infants 0-<6 months is 35%**; the 2000 DHS exclusive breastfeeding rate is 54%. This difference in rates may reflect the more urban and higher-educated population in the PMTCT program. The majority of infants in the Hareg catchment population are being mixed fed, and only two children in the survey were fed entirely by replacement foods.

**About 1 in every 10 mother experienced any breast-related problem** while breastfeeding. The most commonly reported problems were sore nipples and engorgement. There was a significant association between the timing of breastfeeding initiation and the experience of breast problems, with delayed breastfeeding initiation associated with higher rates of breast problems. These results reflect the inadequate breastfeeding practices that might increase HIV transmission.

**Of infants 6-<10 months, 71% received breastmilk and solid/or semi-solid foods**; this compares with a rate of 43% reported in the 2000 DHS. This difference likely reflects the fact that the Hareg catchment area is an urban one. For all infants less than 12 months, the median age of food introduction is 4 months. Similar to breastfeeding, the introduction of complementary food is inadequate: too soon for some babies, too late for others.

Thirty-six percent of mothers reported that their infant had at least one illness in the 2 weeks preceding the survey. Infants 6-<12 months old were more likely to be sick in the last 2 weeks than infants 0-<6 months ( $p<.001$ ). **Twenty-percent of infants 0-<6 months had at least one illness in the last two weeks compared with 46% of infants 6-<12 months.**

Feeding bottles are a known source of contamination and their use increases the risk of diarrhoeal disease in infants. A total of **38% of women used a bottle** to give their infants liquids other than breastmilk during the 24-hours preceding the survey. Women from Somali Region and Addis Ababa had the highest rates of bottle use. Child illness is high, and could be attributed to the inadequate infant feeding practices found in the surveyed population.

### ***Family Planning***

Almost **half of the women in the sample had ever used family planning** and slightly over one-third are currently using family planning (similar to the DHS 2000 findings). Both education level and ANC attendance were highly associated with use of family planning. Of women who do use family planning, pills and injectables are the most frequently used methods while condom use is very low. Among all areas surveyed, women from Addis Ababa reported the highest rates of family planning use.

### ***HIV and AIDS, PMTCT, and VCT***

Results show that HIV and AIDS awareness and knowledge are varied. While almost all women in the sample have heard of HIV and AIDS, only one in ten knew the difference between HIV and AIDS. **The majority of the women were able to identify at least one mode of HIV transmission, however less than a third mentioned MTCT as a possible mode.**

Knowledge around PMTCT was quite low, particularly with respect to modes of transmission and prevention of MTCT during pregnancy. Less than a fifth of women identified all three modes of transmission and almost a quarter of the women did not know any mode of transmission. **“Be faithful” was the most common response to how to prevent HIV transmission.** Perception of risk was very low among this population, with the majority of the women believing they are not at risk for HIV primarily because they are or their partner is faithful.

**Knowledge of prevention of MTCT during pregnancy and breastfeeding is low.** Knowledge of appropriate infant feeding options shows higher knowledge about replacement feeding as the best way to prevent HIV transmission during the breastfeeding period of infancy.

Both knowledge of the availability of VCT and VCT uptake among pregnant women is low. **Nineteen percent of women said it was possible to get VCT in their kebele, and 18% of women reported having been tested.** This is also the same percentage of women who reported receiving counseling on VCT/PMTCT during their ANC visit. Among those tested for HIV, the majority consulted somebody prior to taking the test, usually a health worker or their spouse. These results reflect the fact that the survey was carried out at the beginning of the PMTCT program, just as services were beginning to be offered.

## **Conclusions**

The survey was meant to provide baseline information against which future measures of behavior change among the catchment population can be compared. It has also thrown light on potential areas where the PMTCT program can make a difference in improving antenatal and postnatal services as part of the PMTCT intervention. Specifically, the PMTCT program should address the following:

- ◆ Improve basic antenatal care services
- ◆ Ensure that appropriate knowledge on optimal infant feeding is transferred – including capacity building on infant feeding counseling and women’s nutrition in the context of HIV and AIDS
- ◆ Mobilize the community level for improving maternal care and support – including minimizing suboptimal infant feeding practices
- ◆ Enhance awareness of PMTCT including nutrition, and care and support of HIV-positive women and children at the community level

## Recommendations

1. *Continue to promote the strategy based on the Essential Nutrition Actions that expanded "nutrition" contacts beyond the traditional growth monitoring/promotion program.*
2. *Both iron supplementation and malaria treatment should be included in the national PMTCT guidelines.*
3. *Strengthen the awareness of the existing preventive measures, such as use of condoms during pregnancy and breastfeeding.*
4. *Integrate PMTCT and infant feeding interventions at the ANC. Involve the community to complement the health providers' effort to improve knowledge and practice of Infant and Young Child feeding*
5. *ANC counseling should be strengthened in the areas of nutrition counseling, infant feeding and the benefits of breastfeeding. This should be in addition to the promotion of optimal breastfeeding practice at the community level.*
6. *The promotion of family planning as a PMTCT activity at ANC should be strengthened, including the use of condoms of both HIV+ and HIV- women who are or will be breastfeeding.*

## I. Background

Ethiopia, with a population of about 70 million, has an estimated 6.6% HIV/AIDS prevalence rate, the 16<sup>th</sup> highest rate in the world<sup>2</sup>. HIV prevalence is markedly different between urban centers (estimated 13.7%) and rural areas (3.7%). According to the Ethiopia MOH 2002 estimate<sup>3</sup>, a total 2.2 million people are living with the virus, 200,000 of them children. The majority (9 in 10) of infected children are infected through mother-to-child transmission of HIV.

Studies have shown that in the absence of any intervention, between 25-45 % of HIV positive women living in resource poor settings transmit HIV to their babies during pregnancy, delivery, or through breastfeeding. The HIV transmission rate is estimated to be

- about 5-10 % during pregnancy
- between 10-20 % during labour and delivery, and
- another 10-20 % postnatally through breastfeeding to 24 months.

Poor maternal malnutrition, anaemia and malaria have also been shown to increase disease progression in HIV-positive women, thus increasing the risk for MTCT.

### **National PMTCT strategy and the Hareg project**

Ethiopia's Ministry of Health, in partnership with the Hareg project, is initiating a continuum of integrated care programs for preventing HIV infection among new-born at 10 Hospitals and 13 satellite health centers<sup>4</sup>. The Hareg project is funded by the USG through USAID CDC.

The prevention strategy includes the following components:

- Prevention of HIV infection among parents to be (Prong 1)
- Prevention of unwanted pregnancies in HIV positive women (Prong 2)
- Prevention of transmission from HIV positive women to their infants (Prong 3)
- Care & Support for those infected and affected by HIV status (Prong 4)

These interventions are implemented through access to antenatal, delivery and post-natal care. The mother has to have early access to ANC, adequate counseling, confidential testing, optimal delivery care, support on infant feeding options, and to nutrition, care and support mechanisms.

The emphasis on the PMTCT program and on the funding sources is on the 3<sup>rd</sup> prong, which primarily includes the provision of antiretroviral prophylaxis to the mother infant-pair to reduce the risk of MTCT. The Ethiopia PMTCT program recommends the provision of Nevirapine to the mother and newborn, in addition to providing infant feeding counselling during ANC and well-baby visits. Other aspects of ANC/MCH care and support, such as nutrition and malaria prevention have been included into the current strategy. The Hareg project is expected to demonstrate the feasibility and effectiveness of integrating activities to prevent MTCT in routine MCH services.

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<sup>2</sup> UNAIDS brief on National Response, June 2004

<sup>3</sup> MOH, Disease Control & Prevention department, 2002

<sup>4</sup> This was the status at the start of the baseline survey; this number has since been increased.

## **AED-LINKAGES/Ethiopia**

AED-LINKAGES' role in the Hareg Project is to bring technical support in the areas of IFCY and maternal nutrition as additional means to help reduce the risk of MTCT while at the same time improving the overall health and quality of life of all mothers and their infants.

AED-LINKAGES has been working in Ethiopia since March 2003 to bring technical assistance in improving nutrition practices for infants and young children and women. The main activities are nutrition advocacy at all levels, training including in and pre-service, and community interventions focusing on behaviours change and communication. AED-LINKAGES is working with the Hareg partners, with NGOs involved in child survival, emergency, and nutrition programs, with medical colleges, and federal MOH and Regional Health Bureaus throughout the country.

As part of the overall effort for combating malnutrition among women and children, and addressing inappropriate infant feeding and poor women's health and nutrition, the AED-LINKAGES/Ethiopia works in collaboration with the MOH to promote and implement seven globally proven, do-able and result oriented actions: the Essential Nutrition Actions approach (ENA). They include:

- 1) promotion of optimal breastfeeding of infants during the first six months
- 2) promotion of appropriate complementary feeding to breastfeeding beginning at 6 months
- 3) promotion of feeding of the infant and young child during and after illness
- 4) control of vitamin A deficiency
- 5) control of anemia
- 6) control of iodine deficiency disorders
- 7) promotion of women's nutrition

The ENA approach is also implemented in the context of HIV AND AIDS (see Annex 1) through the Hareg Partnership.

## **II. Baseline survey objectives**

An evaluation of the Hareg project will shed light on the success of integrating PMTCT activities into routine MCH services. Given this goal, the baseline survey was designed to:

- Establish baseline measurements of core PMTCT, IYCF and women's nutrition indicators for the PMTCT program to measure the intervention outcomes
- Produce information that can be used by program managers to develop strategies for improving activities the context of rapid PMTCT scale-up.

Data from HMIS registries will provide information about the basic questions of service delivery (including program input and processes directly received by the population), but will be short of demonstrating outcomes and impact on the general population. Monitoring data from the HMIS are fundamental for program managers while the evaluation data are essential for decision makers.

The main objective of implementing a baseline household survey in the PMTCT site catchment areas is to assess the current status of the PMTCT outcome indicators included in the "National Implementation Framework for the Prevention of Mother-to-Child Transmission of HIV in

Ethiopia” and that reflect the Hareg inputs into the intervention. The baseline survey was designed to assess

- Access to ANC (including early access and number of visits),
- Delivery practices
- Postnatal care by women with infants less than 12 months
- Infant feeding behaviors
- Nutrition, and care & support of HIV positive women and their infants
- Use of modern family planning methods,
- Awareness of PMTCT
- Acceptance of VCT by women with infants less than 12 months<sup>5</sup>.

The survey is designed to occur over multiple rounds to provide trends before, during and after the introduction of the interventions. It will be implemented in multiple intervention areas so that it is possible to identify the extent to which the intervention’s effects are unique to a particular area and population, or is representative of the national trends.

### III. Methods

The sample for the baseline survey is designed to provide baseline indicators for two categories of mothers (mothers with infants 0 to less than 6, and 6 to less than 12 months). This will allow for an analysis of infant feeding behaviors in both age groups of infants.

The sample is a representative sample of the PMTCT program in Ethiopia, reflects the situation in the six different regions where PMTCT program is being implemented, and reflects the different populations (Hospital as well as Health Satellites Centers) within the catchment area of the PMTCT program. At least 1 hospital and at least one satellite of each hospital, per region, were included in the sampling frame. The sites included in the survey catchment population are summarized in Table 1 below.

**Table 1: Survey sites by Region**

<b>Region</b>	<b>Covered PMTCT site</b>
Tigray	Axum Hospital; Wukiro M. Health Center
Amhara	Felege Hiwot/Bahir Dar Hospital; Werota Health Center
Benishangul-Gumuz	Assossa Hospital; Assossa Health Center
Oromia	Ethiopian Air Force Hospital (Debre Zeyit); Mojo Health Center
Somali	Karamara Hospital; Jijiga Health Center
Addis Ababa	Higher 17 and Lideta Health Centers (for Zewditu Hospital)

The survey was conducted using a systematic two stage cluster sampling methodology. The sample size was calculated based on a P value of .5 (to get the maximum required sample) and an expected change of 10% by the end of the project. At 95% confidence level and power level of 80%, the desired sample size was calculated as 389 for both age groups, 0–<6 and 6–<12 months.

<sup>5</sup> These outcomes measures included in the national framework are not currently collected in the HMIS or BSS.

The first stage of the sampling procedure involved selection of 3 target clusters or kebeles at random within each of the 12 target catchment areas. At the second stage, a fixed number of 25 women with infants less than 12 months were selected and interviewed using WHO/UNICEF random walk methods from each of the selected kebeles. The starting point (the center of the kebele) was determined with the assistance of local guide. From the center, a direction was determined by assigning numbers for each direction, and randomly selecting one. Starting from the center, the interviewer walked in the selected direction interviewing mothers with infants of less than one year old. If the interviewer reached at the boarder of the kebele, she returned back to the center and randomly picked another direction to continue the interviewing until the required sample size of 25 was completed. The total sample size was estimated to be about 900 women with infants, 150 women per region.

### **Survey Questionnaire**

The survey instruments (Annex 37) were initially drafted by AED-LINKAGES based on experiences of work in similar countries. The draft questionnaires were shared with the MOH and the Hareg partners, and revised accordingly.

### **Data collection**

A total of six supervisors – one per region – with a minimum of BSc in Statistic or related fields were recruited and trained to become the trainers and supervisors of the interviewers in each region. The supervisors, in collaboration with regional PMTCT teams and PMTCT site focal persons, hired six interviewers – three per selected PMTCT site – to implement the survey at each site. A total of 36 interviewers, 27 of them nurses, were hired. Supervisor training was carried out at the project head office from April 14 -16. Interviewers were trained by their supervisors at the PMTCT sites from April 21 - 23. The training at both levels consisted of a two-day class discussion and one-day of field practice.

The data were collected between April 25 and May 07, 2004. Questionnaires were sampled for completeness and verified through re-interviews for authenticity.

### **Survey Limitations**

Since the coverage of the baseline survey is limited to PMTCT sites in urban and semi-urban areas, interpretation of the results should apply to the catchment areas only. The survey is planned to furnish baseline behavioral information. The results, however, could also be used in analyzing the level and pattern of certain behaviors. Further studies of operational research nature would be required to establish and analyze the why and how these behaviors existed. As initial steps, the formative behavioral assessments<sup>6</sup> conducted by LINKAGES for selected sites have disclosed some insights on factors associated with the current women nutrition and IYCF behaviors

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<sup>6</sup> Formative behavioral assessment on women nutrition conducted in, Dilla (urban), Gonder (semi-urban) and Jimma (rural) areas, June, 2004; Formative behavioral assessment on PMTCT and Infant Feeding in the context of HIV/AIDS conducted in Addis Ababa (urban), Gonder (semi-urban) and Jimma (rural) areas, January 2004; and Formative behavioral assessment on IYCF in selected communities of 5 partner PVOs, August 2003. The result from these assessments is being utilized for developing training and IEC materials.

## IV. Results

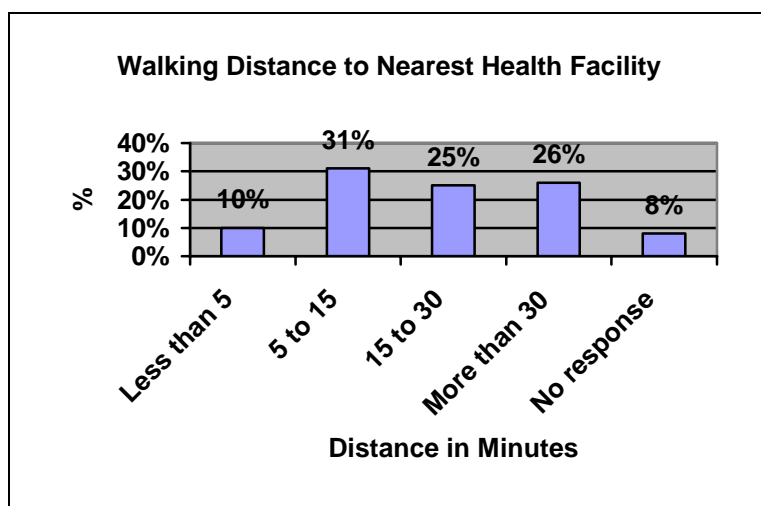
### 1. Background Information

Respondents ranged in age from 15 to 43 years, with a median age of 25 years. Sixty-six percent (n=598) ever received formal or non-formal education; of these, 61% completed primary school (grades 1-8) and 25% completed secondary or higher. There were some significant differences in education status across regional PMTCT sites (see Annex 2). Similar results are reported in the Ethiopia DHS, where 60% of females from urban areas had at least some education.

Sample Characteristics	(N=900) n	%
<b>Education</b>		
No education	302	34
Grade 1-4/Informal	152	17
Grade 5-8	220	24
Secondary or higher	226	25
<b>Mother's Age</b>		
15-19	104	12
20-24	290	32
25-29	289	32
30+	217	24
<b>Infant age</b>		
0-< 6 months	457	51
6-< 12months	443	49

Government health facilities were the most frequently cited type of facility visited by the women, with 35% reporting going to the Government hospital most of the time and 56% going to the Government Health Centers or Clinics (see Annex 3 for regional results).

Health Facility Types Attended by Respondents	(N=900) n	%
Government Hospital	314	35
Government Health Center	457	51
Government Clinic	46	5
Private Hospital/clinic	57	6
Other Health Provider	19	2
Don't know	7	1

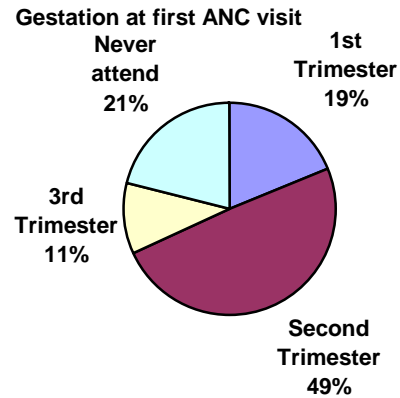
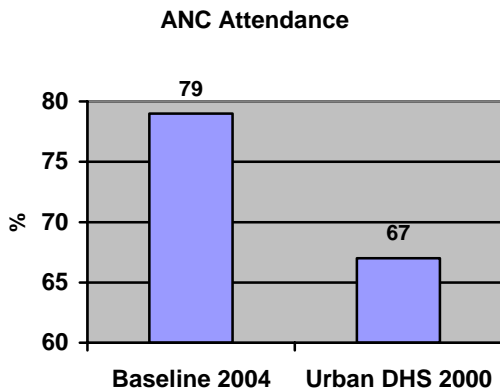


The majority of women (66%, n=593/900) were able to walk from their home to their usual health center in less than 30 minutes. Women in Oromia Region were more likely to report taking more than 30 minutes to walk to their usual health facility.

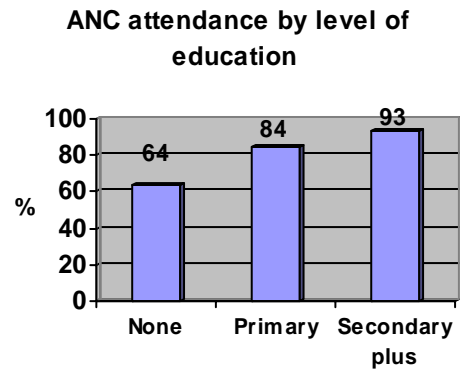
## 2. Antenatal care services

### a. Antenatal care attendance

Seventy-nine percent of women surveyed (713/900) visited a health facility at least once for antenatal care during their last pregnancy (see Annex 4 for regional data). Nearly half of the women (49%) had their first visit during the second trimester, with an average first visit of 4.7 months gestation. The median number of ANC visits during last pregnancy was 4 (5.5 months in the DHS), and 59% of the women had more than 4 visits.



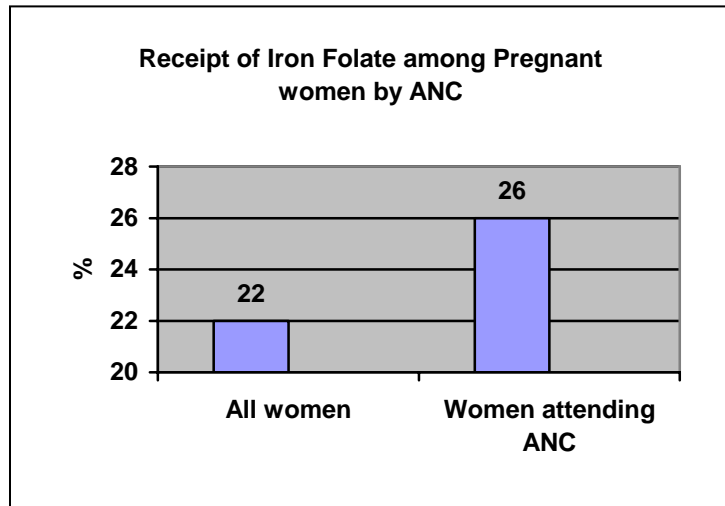
ANC attendance is significantly associated with the woman's education level ( $p < 0.001$ ). ANC attendance increased from 64% for women with no education, to 84% for women with some level of primary education, to a high of 93% for women with education at the secondary level or higher.



### b. Iron Folate Supplementation

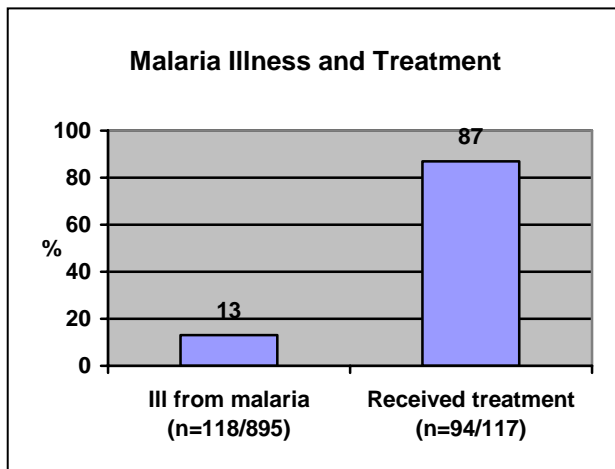
Iron-folate supplementation is a key to improve women's nutrition and child health outcomes and is a component of the Essential Nutrition Actions approach. The newly-developed micronutrient guidelines in Ethiopia recommend that pregnant women receive iron-folate daily for 6 months.

All women were asked whether they received iron-folate supplementation during their last pregnancy. Survey findings show that of all women, only 22% (193/896) received iron-folate supplementation during their pregnancy. Among women who attended ANC during their last pregnancy, only 25% (182/709) received iron-folate supplementation. There is almost no difference in iron-folate supplementation between women who attended ANC and those who did not.



*c. Malaria control*

Outside of Addis Ababa, malaria is endemic in Ethiopia and represents a significant source of maternal and child-related morbidity and mortality. Malaria control is particularly important in the context of HIV and AIDS, and particularly in PMTCT where there is a clear association between malaria and HIV transmission during pregnancy. Intermittent preventive therapy (IPT) is not part of the national protocol for malaria prevention (only treatment is recommended). Survey results show that only 5% (43/892) of women received IPT.



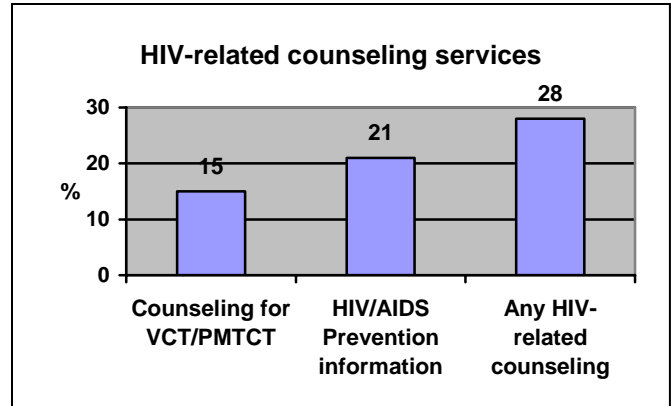
A total of 13% of women had been ill with malaria during their last pregnancy and 80% of these received malaria treatment. Of all respondents, 15% (143/900) reported sleeping under an insecticide treated net (ITN) during pregnancy.

*d. Counseling Services*

Women were asked whether they received infant feeding, nutrition and HIV-related counseling services during their visit. Of all counseling services, counseling on diet was the most commonly mentioned during ANC. There were some significant regional differences on the counseling services received (Annex 5)

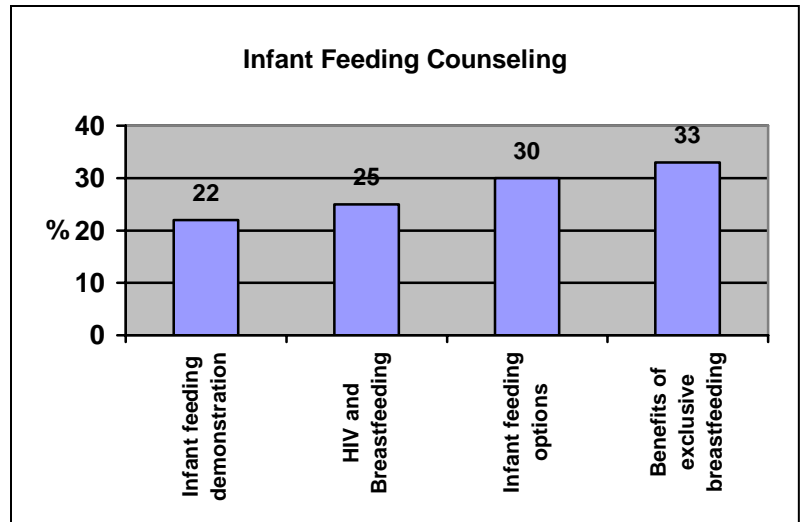
**HIV-related counseling services**

A total of 28% of women (255/900), received HIV-related counseling during their last pregnancy, including 21% (189/900) who received HIV and AIDS prevention information, and 15% (131/900) who received counseling for VCT/PMTCT.



**Infant feeding counseling**

Infant feeding counseling services are critical for the successful promotion of optimal breastfeeding practices, particularly in the context of HIV and AIDS. Of those women who attended ANC; 30% (214/712) received counseling on infant feeding options, 33% (236/712) the benefits of exclusive breastfeeding; 22% (156/712) received an infant feeding demonstration; and 25% (181/712) received information on HIV and breastfeeding.

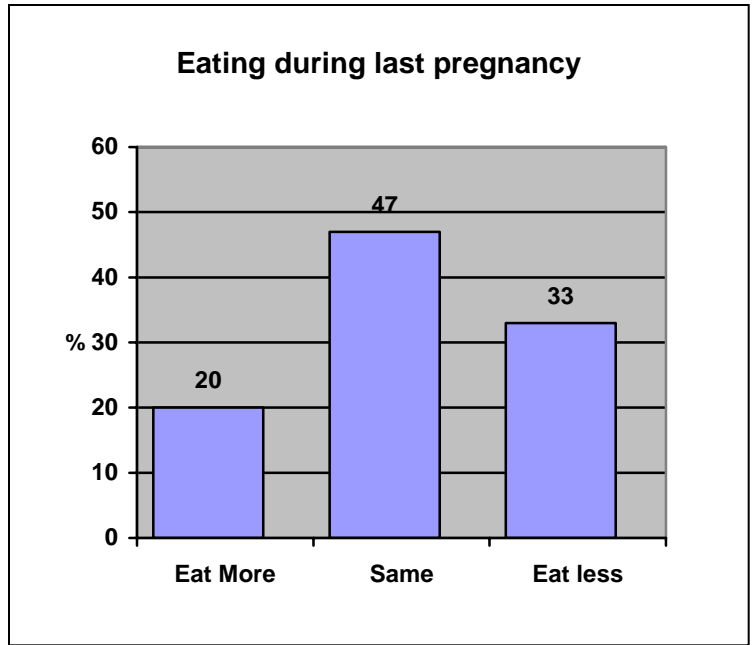


**Counseling on maternal diet and benefits of breastfeeding**

Of all women who attended ANC, 66% (473/713) received counseling on their diet. Forty-eight percent of women received advice on the need for good diet/nutrition from a variety of sources, including health providers, relatives and partners. An almost equal number, 45%, received no nutritional advice at all from any source. Only 6% of women received nutritional advice in the context of HIV and AIDS.

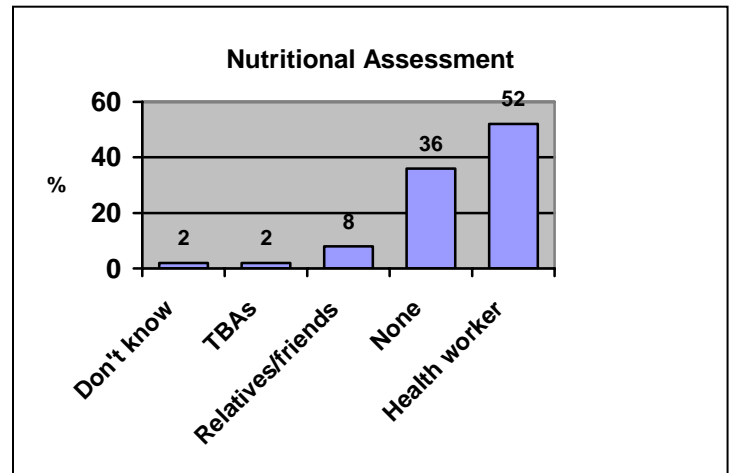
### Dietary practices

Women were also asked questions about their own nutrition practices during their past pregnancy. Adequate nutrition during pregnancy is critical for intrauterine development of the infant and protects against maternal morbidity and mortality, particularly in the context of HIV. National guidelines recommend that pregnant women eat more than usual. Twenty percent of women (181/893) reported eating more during pregnancy, 47% (418/893) reported no difference in eating habits, and 33% (294/893) ate less than usual during pregnancy.

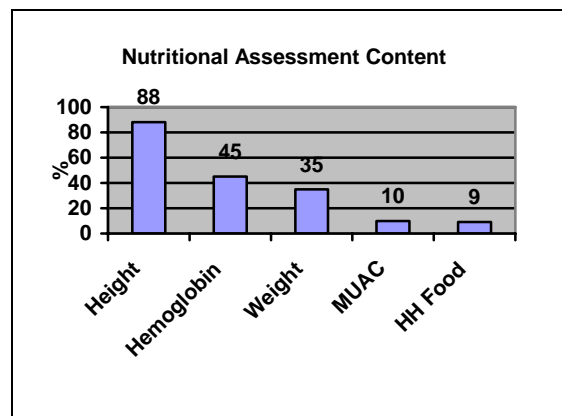


### Nutritional assessment

Sixty-two percent of women (556/900) reported having their nutritional status assessed during their pregnancy; 36% received no nutritional assessment and 2% did not know whether their nutritional status had been assessed.



Weight and height measurement, and testing of hemoglobin were the most commonly mentioned nutritional assessment services received.



## ***Conclusions***

- ANC attendance was higher than reported in the DHS (2002) - 79% of the women in this sample sought ANC services from a health facility compared to 67% of urban women in the DHS (ANC care from a “health professional). The higher rate of ANC attendance is likely due to the urban and peri-urban residence of the Hareg population.
- A large proportion of women made frequent (at least 4) ANC visits.
- There are significant associations between ANC attendance and educational levels. Given that this population is largely urban, and women from urban settings are more likely to have at least some education, this could also explain the higher ANC overall attendance rates.
- The quality of ANC is low in all aspects, counseling (i.e., infant feeding, nutrition, PMTCT) as well as in delivery of services such as anemia prevention.

In the context of infant feeding and women’s nutrition, the high attendance and frequency of ANC visits is an opportunity to improve nutrition counseling and supplementation treatment for all pregnant women.

In the context of a PMTCT program, and as ARV therapy is scaling up, the frequency of ANC visits presents an opportunity to provide appropriate counseling and interventions services to women in order to decrease HIV transmission.

There is a need to strengthen quality of ANC care (counseling and delivery services). This is particularly important in the context of PMTCT to reduce the risk of further disease progression among HIV positive women.

## ***Recommendations***

1. Promote ANC attendance as soon as the woman knows she is pregnant through training and education of TBAs, community health workers, interpersonal communication activities, and other community-based programs.
2. Strengthen the provision of iron-folate supplementation, and possibly multivitamin supplementation, as well as treatment for malaria in endemic areas for all ANC women through training of health workers, their supervision, and improvement of drug supply and distribution.
3. Strengthen ANC counseling services in PMCTC through health worker training and supervision of health workers.
4. Strengthen ANC nutrition counseling on infant feeding options in PMCTC sites through training of health workers, their supervision, and a focus on inter-personnel skills development using the IF-PMTCT counseling tools and demonstration equipment.

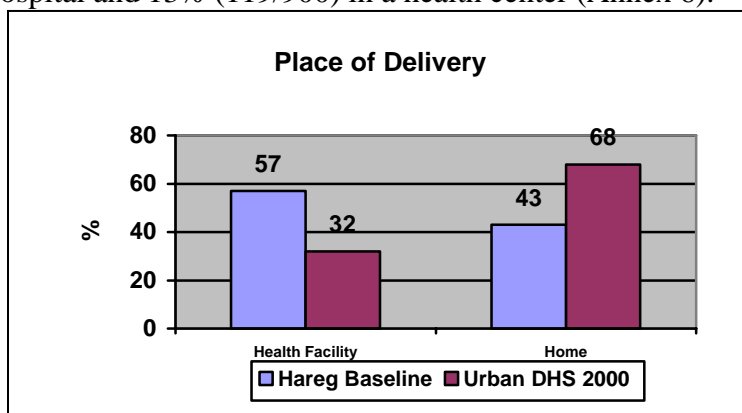
5. Strengthen ANC nutrition counseling on women’s nutrition in PMTCT sites through training of health workers, their supervision, and a focus on inter-personnel skills development.

### 3. Delivery and Postnatal Care

#### a. Safe Delivery

One of the more important safe motherhood indicators of best practices is the proportion delivered by a trained attendant; for HIV positive women it is particularly important to deliver in a health facility by a trained health provider in order to reduce the risk of MTCT during delivery and reduce obstetric and postpartum complications. In addition, HIV positive women who receive nevirapine can be best monitored for adherence and side effects in a health facility by a trained provider. Further, infants of HIV positive women who deliver at a health facility are more likely to receive the infant dose of nevirapine, and the mother infant feeding counseling.

A total of 57% of women (513/900) reported delivering in a health facility – 44% (394/900) in a hospital and 13% (119/900) in a health center (Annex 6).



Women who completed secondary or higher education were more than twice as likely to deliver in a hospital as compared with women with no education (28% and 69%, respectively). However, there was no association between education level and delivery in health centers.

Fifty-eight percent of women (n=521/900) were delivered by a health provider, 23% (n=210/900) by a TBA (both trained and untrained) and 18% (n=158/900) by friends/neighbors, and only 1% (n=10/900) by no one. Of women living in Addis Ababa, 26% were assisted by a trained health professional (Annex 8).

#### b. Medications received at Labor, Delivery and Postpartum

To establish a baseline proxy of the percent of women receiving nevirapine, women were asked about any medication they or their infant received at the onset of labor and after delivery. The questionnaire did not specifically ask about nevirapine due to confidentiality requirements.

Few women (12%, n=104/900) reported receiving any medication at the onset of labor. Of those who did receive any medication, 33% (34/104) mentioned oxytocin/petocin, and 19% (20/104) received antibiotics. There was no specific mention of “Nevirapine” by any of the women in the

survey. Only 3% of all women (27/900) reported their infants receiving any medication or syrup after delivery.

### *c. Postpartum nutrition and care*

It is recommended that mothers receive a single dose of Vitamin A postpartum. This increases Vitamin A in the breastmilk and reduces the risk of infection in both the mother and her infant. Baseline results show that only 12% of women (n=105/898) reported receiving postpartum Vitamin A, with a Regional range from 4% in Somali (n=6/150) to 21% in Addis Ababa (n=32/149). (Annex 9)

## **Conclusions**

More than half of women in this sample delivered at a health facility and by a trained health professional. These are higher rates of institutional deliveries and deliveries by a health professional than reported in the 2000 DHS for urban areas. As discussed earlier, this difference is likely due to the urban characteristics of this population and their proximity to these health facilities. At the same time, there remains a significant proportion of women who deliver at home and who are delivered by non-facility providers and untrained professionals.

Very few women received Vitamin A after delivery. Not surprisingly, no one mentioned that they received nevirapine; this is because the PMTCT program in Ethiopia was not yet providing nevirapine at the time of the survey.

## **Recommendations**

1. Promote facility-based deliveries through community-based providers such as TBAs and CHWs to ensure safe deliveries for all women and to reduce the risk of MTCT among HIV positive women.
2. Promote facility-based deliveries through the use of interpersonal communication activities, such as drama, peer education, and interactive radio that reach women in the community, their partners and family members.
3. Strengthen postpartum Vitamin A supplementation by training health workers, ensuring an adequate Vitamin A supply, and promote the behavior at the community level.
4. Establish a postnatal follow-up schedule for women testing positive for HIV that is in accordance with the national guidelines for ongoing follow-up care and support of HIV positive women.

#### 4. Breastfeeding Practices

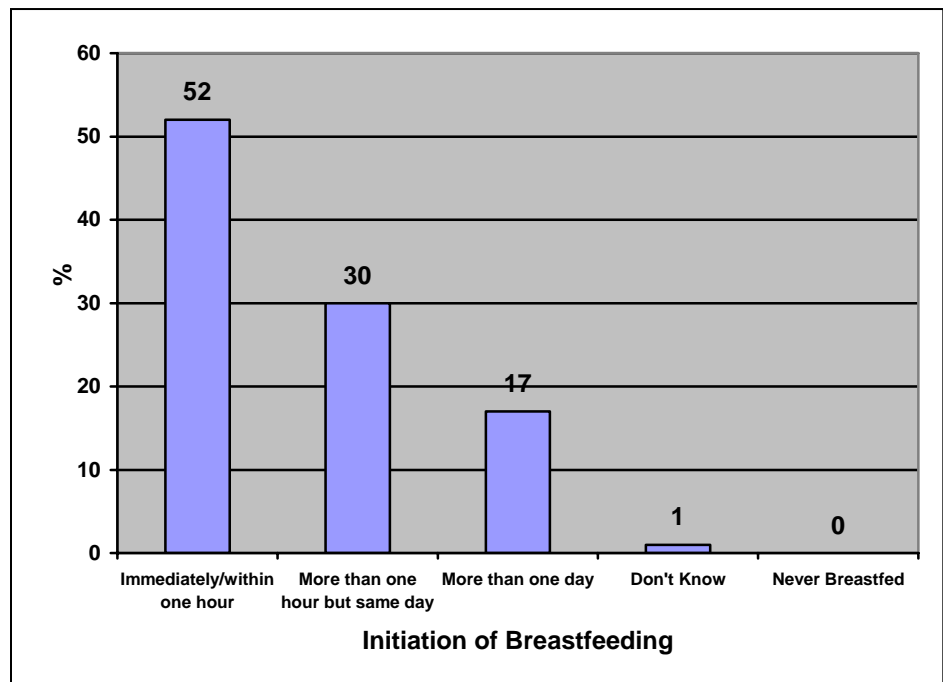
HIV passes via breast-feeding to about 15% of infants born to HIV-infected women. As with prenatal transmission, risk is significantly influenced by breastfeeding patterns, maternal viral load, maternal nutrition, and co-infection with other diseases such as malaria. It is also important to be aware that a reduction in breastfeeding could harm child health and survival, and could trade off any gain made to date in child survival programs in Ethiopia. Breastfeeding should be promoted in all populations to prevent a spillover effect to replacement feeding a through fear of transmission of HIV or due to lack of knowledge of the benefits of breastfeeding. HIV-positive women need complete and accurate information about infant feeding options, and should be counseled against breast-feeding only if milk substitutes are affordable and can be fed safely, and if adequate health care is available and affordable.

Breastfeeding is the predominant mode of infant feeding in Ethiopia and 94%, of all women were currently breastfeeding at the time of the survey. There was little difference in breastfeeding practice across regions, except in Addis Ababa where only 83% of women were currently breastfeeding (Annex 10).

##### *a. Timely initiation of breastfeeding*

Timely initiation of breastfeeding within the first hour after birth is a key indicator of optimal breastfeeding practices and it is now included in the Ethiopia National Infant and Young Child Feeding Guidelines. In the context of HIV and PMTCT, and early initiation of breastfeeding is essential for HIV positive women who choose to exclusively breastfeed for the first 6 months of their infants' lives.

Fifty-two percent of women (n=464/900) initiated breastfeeding within the first hour of birth, the same as in the 2000 DHS. Thirty percent initiated breastfeeding more than one hour after but the same day of delivery (n=268/900), 17% (n=152/900) initiated more than one day after delivery, 1% (n=12/900) did not know when the initiated breastfeeding, and 0.4% of women (n=4/900) never breastfed. (See Annex 11 for regional results.)



The most common reason for not initiating breastfeeding immediately was “mother was ill” (33%, n=145/436). The other reported reasons include “milk was not flowing” (22%, 94/436), and “baby not given” to the mother (19%, n= 84/436). About one in every ten mothers (9%, 37/436) reported not initiating immediately due to cultural/traditional reasons.

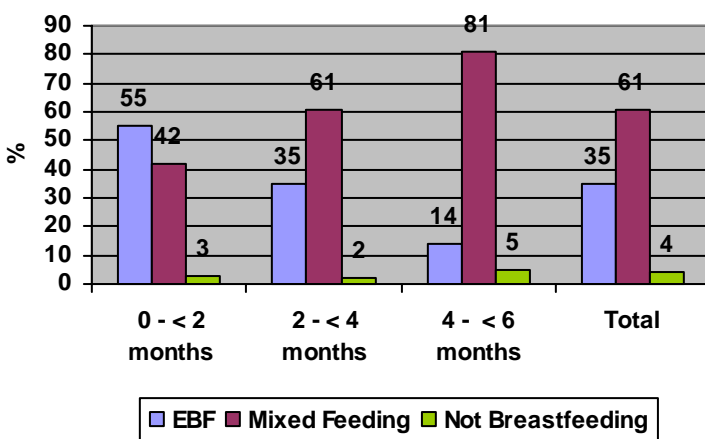
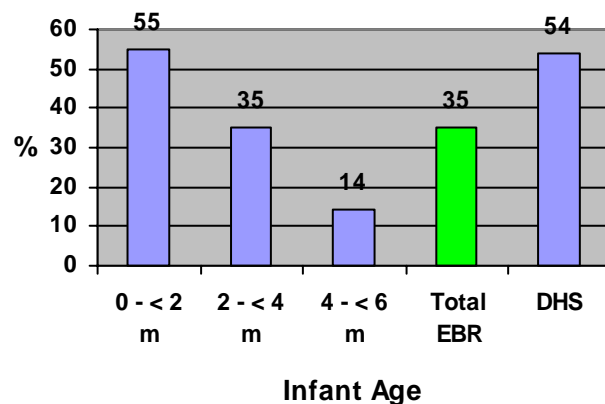
*b. Exclusive Breastfeeding*

In Ethiopia, national guidelines recommend exclusive breastfeeding, with no additional liquids or solids for the first 6 months. Exclusive breastfeeding is the best source of nutrition for the infant, and protects the infant from infectious diseases such as diarrhea and ARIs. Among women who are HIV positive, unless replacement feeding is acceptable, feasible, affordable, sustainable, and safe (AFASS), exclusive breastfeeding is the safest mode of feeding for the infant. Otherwise, if replacement feeding is considered “AFASS,” the safest mode of feeding for infants of HIV positive mothers is exclusive replacement feeding.

The total exclusive breastfeeding rate for infants 0-<6 months is 35% (n=158/457), with some significant regional variations (Annex 12). The 2000 DHS reports a national rate of 54%.

The exclusive breastfeeding rate declines from 55% (n=55/161) in the 0-<2 month age group to 35% (n= 49/142) for infants 2-< 4 months, and to 14% (n= 21/154) for infants 4-< 6 months. Regional rates of exclusive breastfeeding by age group were similar except for Benishangul-Gumuz where the EBR rate for infants less than two months was higher than in the other Regions (90%, n=18/20). EBR in this age group was lowest for the Addis Ababa and Oromia sites (Annex 13).

EBR, infants 0 - < 6 month, by age group



In the context of PMTCT, mixed feeding (feeding breast milk and other liquids and/or solids/semi-solids) should be avoided, particularly for the first 6 months. The survey found that a large proportion of infants were mixed fed.

Three in every five of infants less than 6 months old (61%, 158/457) had been fed breastmilk with other liquid, semi-solid or solid food during the preceding 24 hours (Annex 14).

Of infants less than 6 months old,

- 45% are fed breastmilk and other liquids: 17% (n=77/457) breastmilk and water only; 12% (n=54/457) breastmilk and other milk only; 10% (n=46/457) breastmilk and other liquids only; and 6% (n=28/457) breastmilk and infant formula only.
- About 16% (n=75/457) are being fed breastmilk, solids and other liquids (Annex 15).

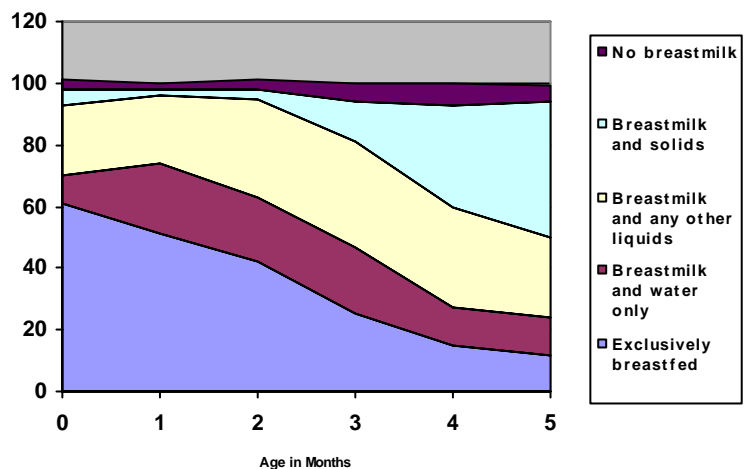
The total percentage of infants who were fed milk (not breastmilk) and infant formula was 25% (115/457). Those infants given formula as a supplement to breastmilk or solid foods was 11% (52/457). Very few infants received either “other milk only” or “infant formula only”– 2 and 1 cases respectively.

About 53% (10/19) of mothers who stopped breastfeeding used animal milk mostly as a replacement feed. Six women used infant formula along with other liquids and semi-solid foods for replacement feeds. Insufficient milk was the most commonly reported reason for stopping breastfeeding.

The figure below illustrates infant feeding trends across age groups. Liquids are typically introduced within the first weeks of life. A small percentage of infants at an early age are already introduced to solids, which increases significantly after 2 months. Among infants 0-< 6 months of age who were being fed solids, the mean age at which solids or semi-solids were introduced was 4 months.

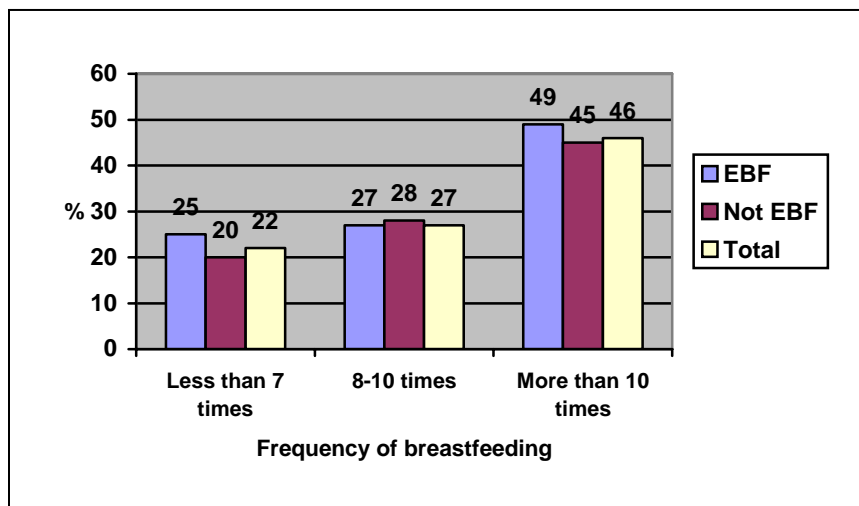
There was significant ( $p < 0.001$ ) negative associations between education and exclusive breastfeeding, where women with secondary education or higher were less likely to be exclusively breastfeeding than women with no education (46% (68/147) vs 26% (31/121).

Exclusive breastfeeding declines from about 61% (n=40/66) at age 0 month to 12% (n=10/81) at the age of 5 months. Feeding breastmilk and water peaks at age of 1 month (23%, n=22/95). Breastmilk and “any other liquid” feeding remains significant at all ages, 23% (n=15/66) at age 0 month, 34%, (n=22/64) at 3 months and between 26% and 30% up to age 6 months. Feeding of solid and semi-solid foods begin to dominate infant feeding behaviors starting at about 4 months, and reaches 44% (n= 36/81) at the age of 5 months (Annex 16).



### c. Frequency of Breastfeeding

The frequency of breastfeeding is another indicator of optimal breastfeeding practices. The national guidelines on IYCF recommend breastfeeding on demand, at least 8-10 times per 24 hours, particularly in the early months of life.



Among all breastfed infants 0- < 6 months old, 46% (210/457) were breastfed more than 10 times a day. The frequency was only slightly higher for exclusively breastfed infants 49% (77/158) than those who were not exclusively breastfed, 45% (133/299). (See Annex 17 for further details.)

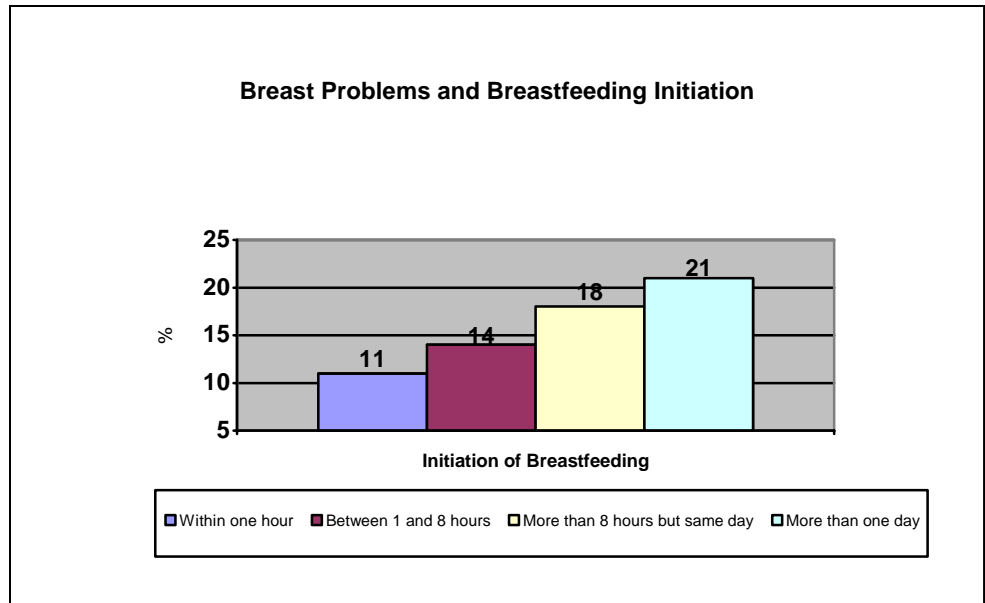
### d. Breast-related problems

Women were also asked about any breast-related problems they may have had while breastfeeding. Breast problems such as engorgement, mastitis or abscesses, could be associated with delayed initiation of breastfeeding, and poor positioning and attachment. In the context of PMTCT, breast problems are associated with increased vertical transmission, particularly if the infant also has sores or infections in the mouth.

About 13% (n= 107/840) of the women of infants 0 - <12 months who were currently breastfeeding reported experiencing any breast-related problems while breastfeeding. The most commonly reported problems were engorgement and sore nipples. Among mothers of infants 0- < 6 months, 14% (n=59/434) experienced breast problems.

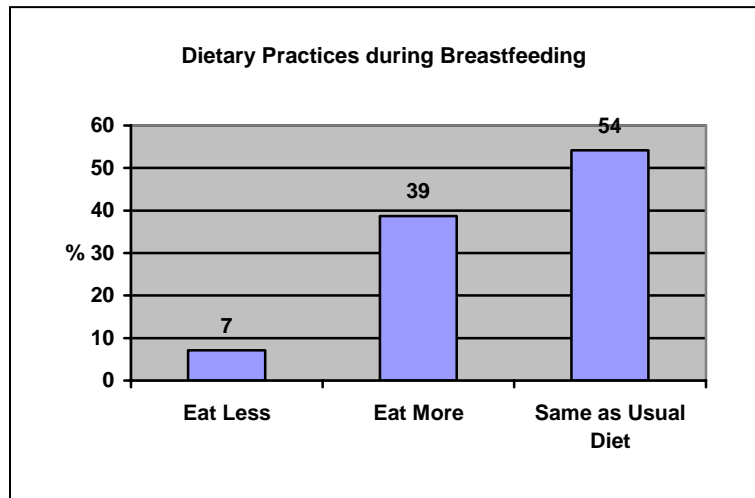
<b>Reported Breast Problems During Breastfeeding, Women with Infants 0-&lt;12 months</b>	<b>(N=107)</b>	<b>%</b>
Engorgement	24	23
Sore nipples	20	19
Cracked nipples	11	10
Burning, tingling	10	9
Other	2	2
Type not specified	40	37

Women who delayed the initiation of breastfeeding for more than eight hours were more likely to experience breast problems than women who initiated breastfeeding within one hour (linear-by-linear association,  $p=0.027$ ) Among women with infants 0-6 months, 21% ( $n=15/73$ ) who delayed initiation by more than one day experienced breast problems as compared with 11% ( $n=24/217$ ) of mothers who initiated breastfeeding within one hour (Annex 18).



*e. Women’s Nutrition During Lactation*

Lactating women, especially HIV-positive women, require additional intake of nutritious foods to ensure that both the mother and baby stay healthy. The majority of the mothers in this sample eat the same amount as their usual diet, with 39% (324/838) eating more than usual. Women from Somali appear to be more likely to eat more during pregnancy than the other regions. (Annex 19 shows some of the regional variations in dietary practices.)



**Conclusions**

The findings show suboptimal breastfeeding practices among infants 0-6 months. There is a high rate of mixed feeding and low exclusive breastfeeding. There is a continued decline in exclusive breastfeeding after the first 30 days of life, and by the age of 3 months only 25% of infants are exclusively breastfed. Liquids have been introduced among nearly 30% of infants less than 1 month old.

There was a significant negative association between exclusive breastfeeding and education level. The association between education and breastfeeding rates could have programmatic implications that require different approaches among more educated women to ensure that infants receive the full benefits of breastmilk.

The association between the delay in initiation of breastfeeding and breast problems demonstrates the importance of initiating breastfeeding within one hour of delivery. This is particularly important for HIV+ women to reduce the risk of breast infections and MTCT.

There were very few mothers not currently breastfeeding infants less than 6 months; nearly half of those women who were not breastfeeding fed their infant milk with other liquids and solids as replacement feeds.

## **Recommendations**

1. Integrate the promotion of optimal breastfeeding practices, in particular early initiation and exclusive breastfeeding into the training and counseling of health providers and into community-based BCC activities.
2. Provide refresher training as necessary and ongoing supervision to health providers conducting infant feeding counseling, including breast conditions.
3. Integrate infant feeding counseling, training and education for support groups of HIV+ mothers.
4. Provide ongoing follow-up care and support to HIV+ mothers to support adherence to their infant feeding choice, treat breast conditions, and provide infant feeding demonstrations and additional infant feeding counseling.

## **5. Complementary Feeding Practices**

Infants are especially vulnerable to malnutrition after age 6 months. While breastfeeding should continue through 24 months, breastmilk alone does not provide sufficient calories or nutrients to sustain optimal growth. Infants 6-<12 months should be fed complementary feeds along with breast milk to prevent malnutrition.

### *a. Breastfeeding practices*

Nearly 8 % of infants 6-<12 months (n= 35/443) had stopped breastfeeding and the remaining 92% (408/443) were still being breastfed. A substantial proportion, 88% (n= 391/443) have maintained breastfeeding while taking other foods.

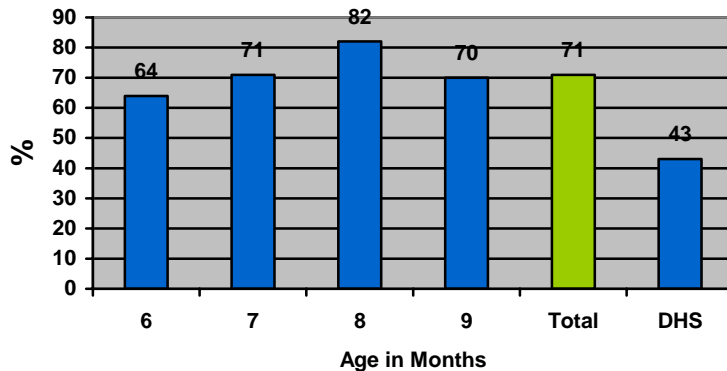
Breastfeeding frequency of infants 6-<12 months is similar in pattern but lower in frequency to 0-<6 month olds. A larger proportion (43%,n= 190/443) are breastfed for more than 10 times a

day, about 29% (129/443) are fed 8 to 10 times a day, and the remaining 20 % (88/443) are breastfed less than 8 times a day.

*b. Complementary Feeding Rate*

The complementary feeding rate is the proportion of infants 6-<10 months who received breastmilk and a solid or semi-solid food during the 24 hours preceding the survey; the complementary feeding rate in the Hareg catchment population 71% (n= 229/322) among infants 6-<10 months; the rate is 43% in the 2000 DHS. Annex 20 shows the regional rates: Amhara has the lowest rate of timely complementary feeding of all the regions, with only 48% (n=24/50) of infants 6-<10 months being fed complementary foods along with breastmilk.

**Timely Complementary Feeding Rate among infants 6-<10 Months by Age**

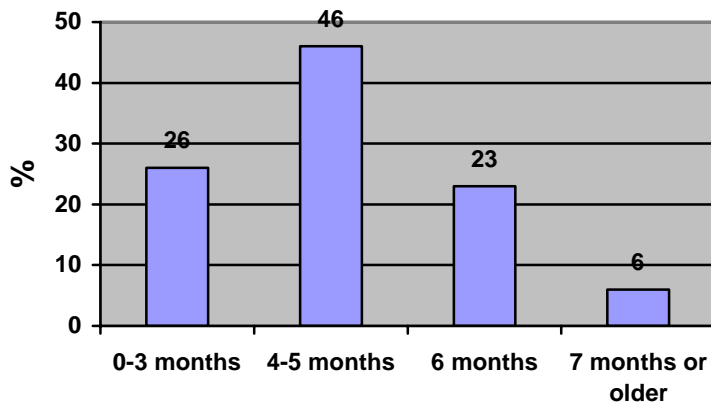


Out of all infants 6-<12 months old, 63% (n= 279/ 443) were fed porridge, bulla (thin porridge made from flour of false-banana) or fitfit (chopped and soused bread/injera) enriched with an additional ingredient. The most common ingredients added to fitfit were butter (31%, 136/443), sugar (45%, 200/443), salt (51%, 225/443), oil (28%, 125/443), and cow’s milk (13%, 57/443).

*c. Age at introduction of foods*

The median age at first introduction of food was 4 months; over 46% of mothers (256/562) introduced foods at months 4-5. This trend is similar across regions (Annex 22).

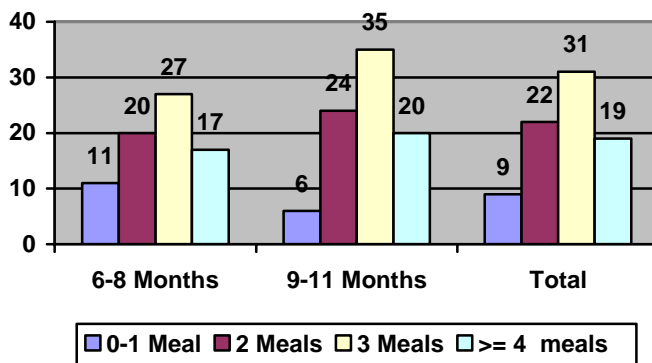
**Age at introduction of foods among infants 6-<12 months**



*d. Meal Frequency*

The daily requirement for breastfed infants is 3 meals per day for infants 6-<12 months. Thirty-one percent of women (n=135/443) who had introduced complementary foods reported feeding their infant 3 meals a day. Equal proportions are given less than 3 meals a day. Twenty-one percent (n=92/443) were still exclusively breastfeeding or had not yet started taking semi-solid or solid meals. There are some regional differences, with Amhara and Tigray feeding fewer meals than other regions (Annex 23).

**Meal Frequency, infants 6-<12 months**



Sixty-six percent of infants 6-<12 months (n= 292/443) who fed complementary foods eat those foods with their own plates.

#### *e. Bottle use*

Feeding bottles are a known source of contamination and their use increases the risk of diarrhoeal disease in infants. In Ethiopia, more than 10% of feeding bottles are estimated to be contaminated. Our results show that a total of 38% of women used a bottle to give their infants liquids other than breastmilk, 13% used a cup with a spout, 29% used a cup with no spout, and 32% used a spoon to give liquids. Women from Somali Region and Addis Ababa had the highest rates of bottle use (see figure below and Annex 24).

<b>Utensil used for feeding non-breastmilk foods</b>	<b>0- &lt; 6 months (N=457)</b>		<b>6- &lt; 12 months (N=443)</b>		<b>Total (n=900)</b>	
	n	%	n	%	n	%
Feeding bottle	170	37	172	39	342	38
Feeding cup with spout	22	5	94	22	116	13
Feeding cup without spout	77	17	187	42	264	29
Spoon	99	22	186	42	285	32

#### ***Conclusions***

Complementary feeding practices are sub-optimal for infants 6-< 12 months. One-third of infants 6-<10 months do not eat a solid and/or semi-solid food in addition to breastmilk, and nearly half of the infants 6-<12 months are fed less than the recommended 3 meals per day. The practice of breastfeeding during these months remains high with 92% of the children 6-<12 months still breastfeed at the time of the survey.

More than half of the infants are fed with a bottle or a feeding cup with spout, placing them at greater risk for diarrhea.

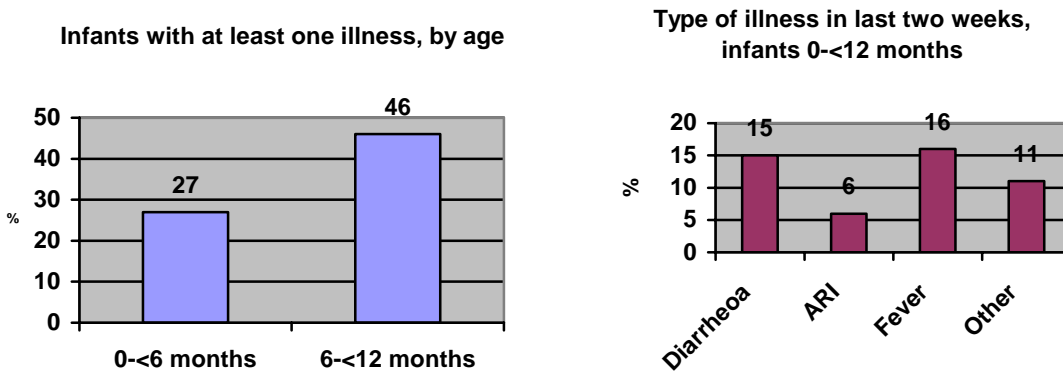
#### ***Recommendations***

1. Integrate the promotion of adequate complementary feeding to breastfeeding into the training and counseling of health providers and community-based BCC activities.
2. Refine the messages regarding complementary feeding so that they reflect current WHO and MOH guidelines on IYCF.
3. Provide training and ongoing supervision to assist HIV+ mothers who have stopped breastfeeding to ensure that their infants are getting adequate nutrients and number of meals per day.
4. Include infant feeding program messages discouraging the use of bottles and feeding cups with spouts.

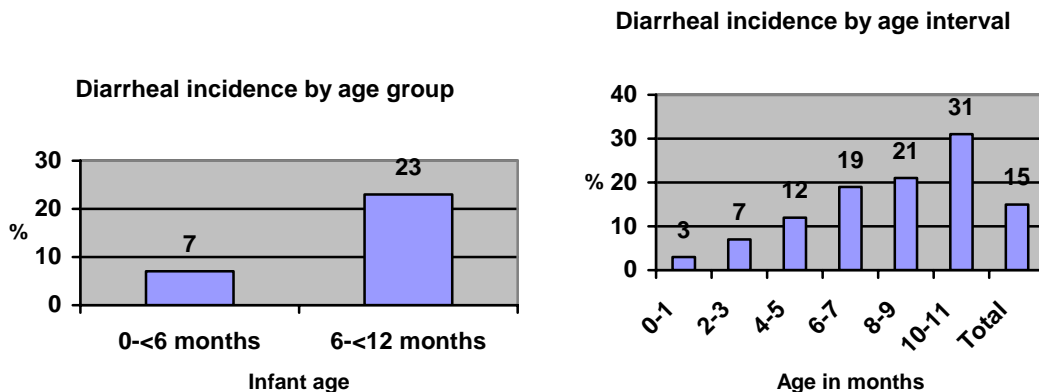
## 6. Feeding of the Sick Child

### a. Childhood illnesses

Thirty-six percent of mothers (n=324/900) reported their infant had at least one illness in the 2 weeks preceding the survey. Infants 6-<12 months old were more likely to be sick in the last 2 weeks than infants 0-<6 months (p=<.001). Twenty-percent of infants 0-<6 months (n=121/457) had at least one illness in the last two weeks compared with 46% of infants 6-<12 months (n=203/443).



The incidence of diarrhea is higher among infants 6-<12 months than with infants 0-<6 months, and increases with each successive month of life.

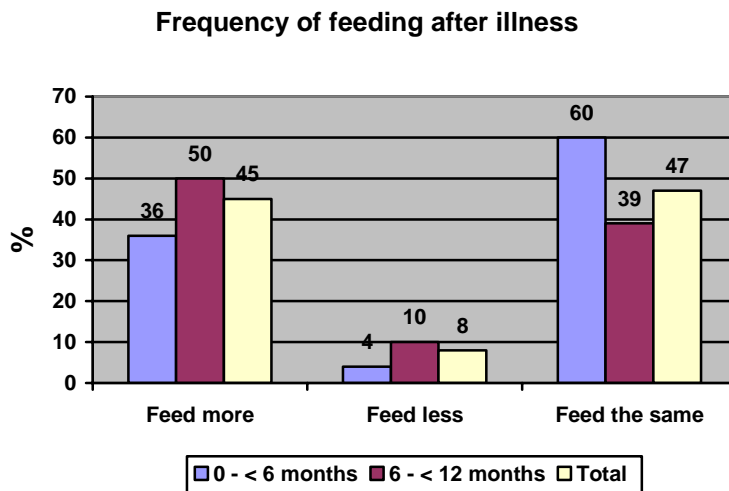
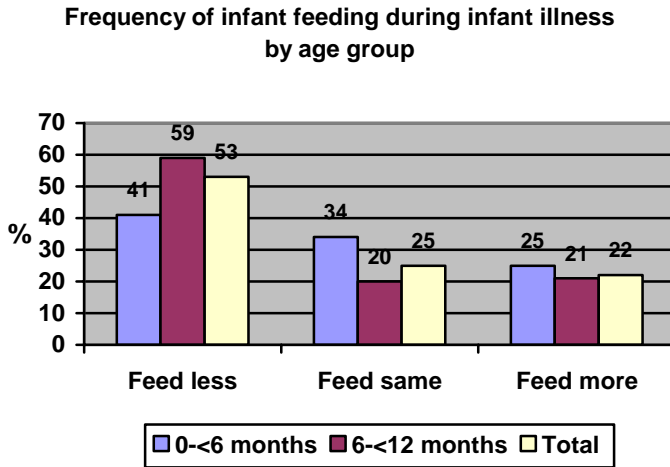


### b. Feeding of the sick child

Infants 0-<12 months who are ill should be breastfed more frequently while sick as well as during recovery. Infants 6-<12 months should also increase their food intake.

Results from the survey found 22% (n= 84/376) of the women whose infants had been ill reported feeding their infants more during their illness. Frequency of feedings among the sick

child actually declines as the infant gets older, where infants 6-<12 months are more likely to be fed less than infants 0-<6 months. During recovery 45%(n=147/325) of the mothers reported feeding more, and about 8 % (n= 27/325) reported feeding less frequently.



In addition, illness of children was more frequent among mothers who also reported an illness (44%, n= 95/215) than children among mothers who did not have an illness (33%, n= 229/685).

**Conclusions**

More than a third of the infants had an illness in the last two weeks. Infants 6-< 12 months were more likely to be ill, particularly with diarrhea, than infants 0-<6 months, possibly due to increased provision and poor preparation of complementary foods.

There are poor feeding practices among sick infants during and after illness, which is very critical as children are sick very often, and lose weight during each illness.

## ***Recommendations***

1. Ensure that the messages on hygiene are part of the training in complementary feeding for health providers and community groups.
2. Strengthen the training of health providers and community groups to adequately counsel women on how to feed sick and recovering infants. This will be especially critical for infants born to HIV+ mothers.

## **7. Infant Feeding Advice and Decision-Making**

Women were asked from whom they received advice on infant feeding, as well as who decides on what to feed the baby. This will identify gaps in infant feeding counseling services as well as whom to target programmatically at the facility, community and household levels with respect to optimal IYCF.

The results show that the majority of women (43%) don't receive advice from any sources. Only 24% of women receive infant feeding advice from health providers and very few women from community health workers. Twenty five percent of the women reported receiving advice from their spouses, in addition to other sources. Outside of Addis Ababa, women rely less on health providers for advice on infant feeding than on themselves or on familial and community-based resources (Annex 25)

<b>Who Provides Infant Feeding Advice (multiple responses allowed)</b>	<b>(N=900) n</b>	<b>%</b>
Nobody	384	43
Spouse	224	25
Health Providers	219	24
Friend/Neighbour	170	19
Mother/Mother-in-law	153	17
Other Relatives	68	8
Community Health Workers	18	2

In terms of who decides what to feed the baby, 65% (n=588/899) of the women mentioned only themselves as the decision maker and 22% (n=199/892) mentioned both themselves and the father. Only 3% (n=31/899) of the women reported the father alone decides. Interestingly, the catchment area of Benishangul-Gumuz, and to some extent in Tigray, fathers appear to play an important role in the infant feeding decisions and in providing advice, which could have important implications for the program (Annex 26).

## **8. Family Planning**

An important component of the PMTCT strategy is the prevention of unintended pregnancies through the referral for and provision of family planning counseling and services. Women were

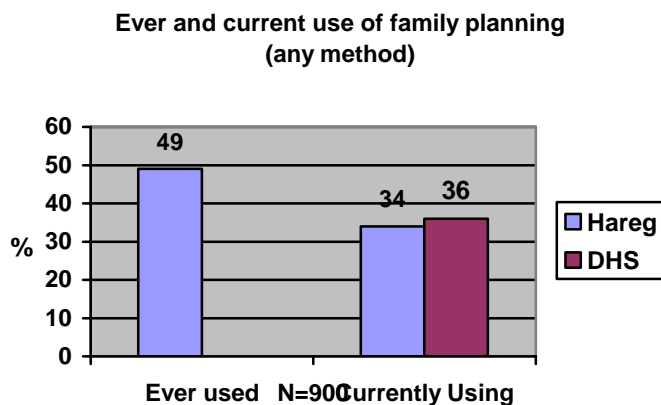
asked questions on their previous and current use of family planning methods, both natural and modern.

Forty-nine percent (n=438/900) of the women in the sample reported ever using family planning to prevent pregnancy and 34% are currently using (n=304/900). Reported rates of current use vary from 17% in Tigray to 53% in Addis Ababa (Annex 27).

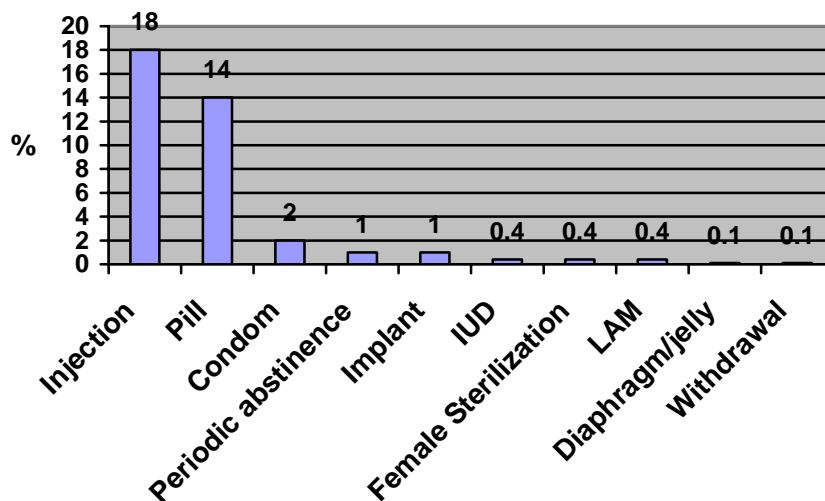
Thirty-three percent (n=303/900) were using modern methods, including lactation amenorrhea and 1% were using natural methods (withdrawal and periodic abstinence).

The pill and injection were the most commonly reported family planning method used, with 14% using the pill (n=124/900) and 18% (n=166/900) using injections.

Education levels were significantly associated ( $p < 0.001$ ) with current use of family planning. Twenty-one percent (n=64/302) of women with no education were currently using family planning compared to 34% (n=128/372) of women with primary education, and 50% (n=112/226) with secondary education or higher.



### Current use of family planning methods

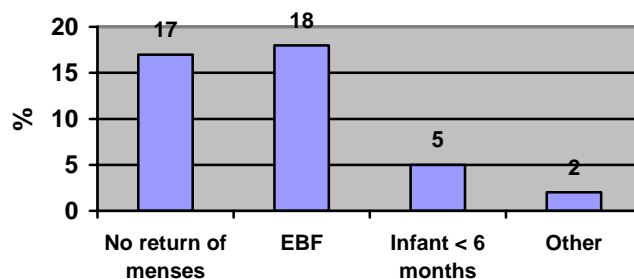


### Lactation Amenorrhoea (LAM)

Forty-six percent (n=211/457) of mothers of infants in the age-group 0-< 6 months said they have heard of LAM – very similar to mothers of infants in the age-group 6-< 12 months 48% (n=211/443). Fourteen percent (n=62/457) of mothers of infants in the formers category and 17% (n=76/443) of the later reported ever using LAM as a method of family planning.

Very few mothers were able to mention the three conditions for a woman to correctly practice LAM. Out of all mothers (n=900), 17% mentioned “menstrual cycle has not returned”, 18% mentioned “exclusive breast feeding”, and about 5% mentioned “baby is less than 6 months”. Only slightly more than 4% (n=6/138) of those who reported ever using the method reported all three requirements needed for practicing LAM.

### Knowledge of the 3 conditions to Practice LAM



(N=422)

## Conclusions

Only one third of all women are currently using a method family planning. Of women who do use family planning, pills and injectables are the most frequently used methods while condom use is very low. Education level was highly associated with use of family planning. Women from Addis Ababa reported the highest rates of family planning use. Both knowledge and practice of LAM as a method of family planning was negligible.

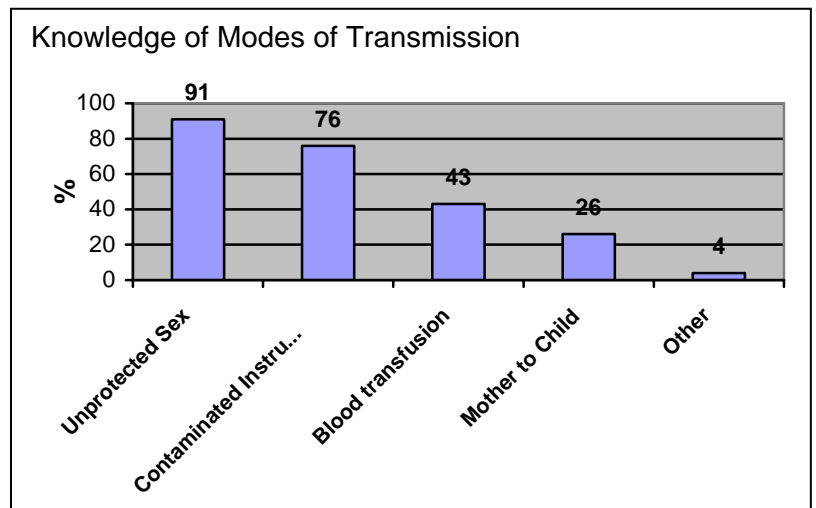
## Recommendations

1. Strengthen the promotion of family planning as a PMTCT activity at ANC.
2. Promote the use of condom, as a prevention method, including women both HIV+ and HIV- who will or who are breastfeeding.
3. Promote LAM as a family planning method for women that are breastfeeding, while advising the use of condom.

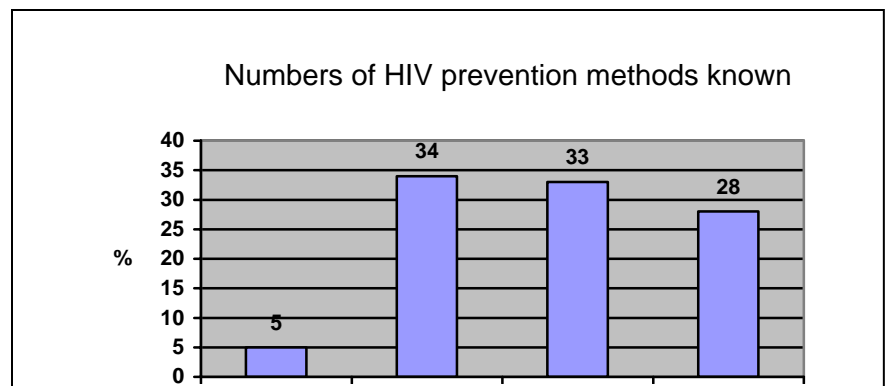
## 9. HIV AND AIDS, VCT AND PMTCT

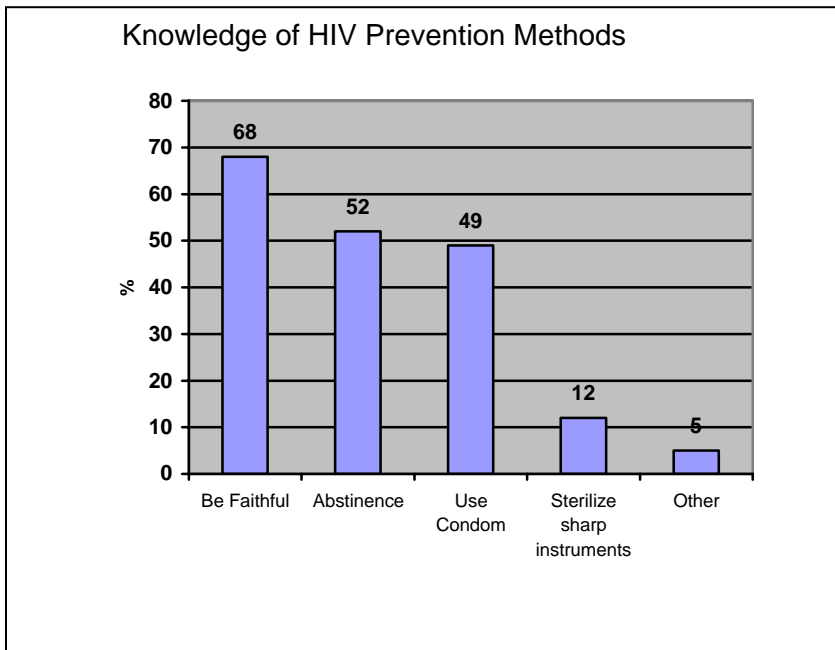
### a. HIV/AIDS knowledge, attitudes, and practice

Ninety-eight percent of the women (n= 883/900) had heard of HIV and AIDS. Although small, the Somali Region had the highest number of women (n=10) who *did not* know about HIV and AIDS. (See Annex 28 for regional variations.) Only 10% of women (n= 90/900) knew the difference between HIV and AIDS. Forty-four percent of the women (392/900) were able to name at least 2 modes of HIV transmission and 41% (n=366/900) named 3 or more modes. Unprotected sex (n=821/900) and use of contaminated instruments (n=689/900) were the most commonly reported modes of transmission. Other responses included body contact, sharing of feeding utensils and eating together. Only 26% (n=238/900) of women mention MTCT as a mode of HIV transmission (Annex 31).



Twenty-eight percent (n=255/900) of women could name at least three prevention method. Slightly over two-thirds could only mention one or two prevention methods, and the remaining five percent couldn't mention even one prevention method.





The most common method of prevention mentioned was “being faithful to partner” (68%, n= 610/900), followed by abstinence (52%, n= 467/900), and use of condom (49%, n=445/900). (For regional comparisons by mode of prevention, refer to Annex 30.)

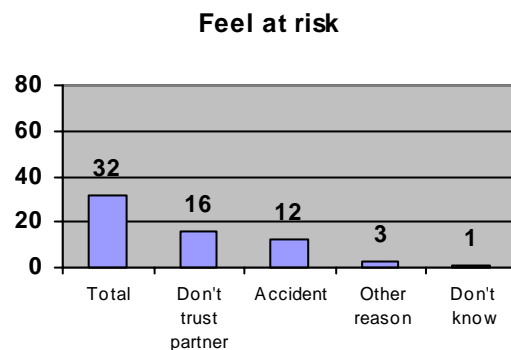
### Perception of Risk

Perception of risk is a key indicator for better understanding and helping to change individual behavior. Almost 68% of women (n=611/900) believed they were *not* at risk for getting HIV.

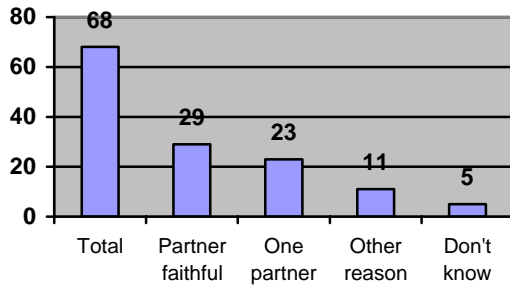
Twenty-nine percent of women (n=262/900) did not feel at risk because their partner is faithful, and 23% (n=208/900) did not feel at risk because they only had one partner. Less than 1% of women (4/900) mention using condoms as a reason for not feeling at risk for HIV transmission.

Of those women who did feel at risk for getting infected with HIV, 16% believed they were at risk because they did not trust their partner/partner’s behavior (n=147/900), and 12% believed they were at risk due to accidents (n=110/900), such as getting a cut from a contaminated instrument or sharp object (Annex 30).

Perception of risk for becoming HIV infected by reason



**Not feel at risk**



Only 39% of the women discussed their risks or concerns about HIV with someone (n=348/900). Women most commonly discussed risks/concerns about HIV with their husband/partner and with their peers/friends.

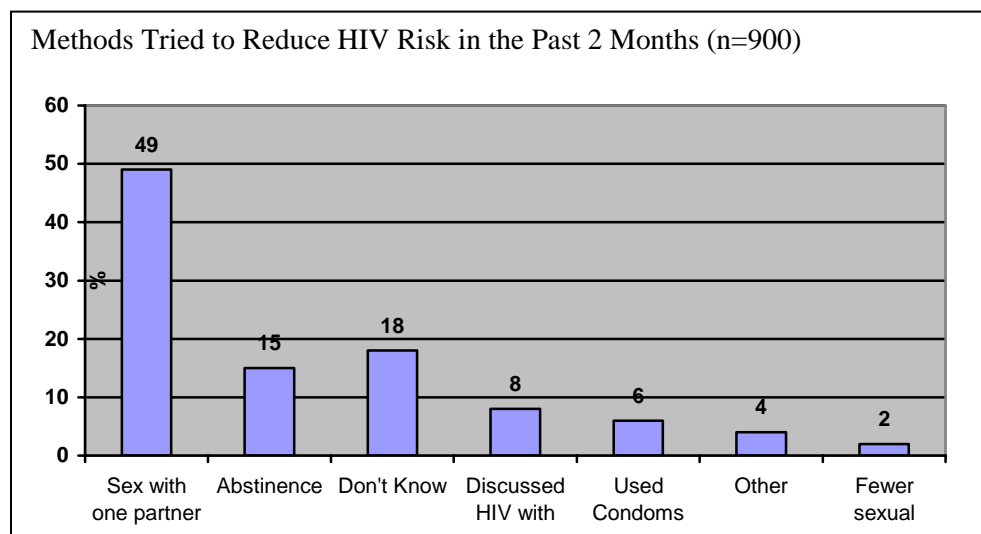
<b>People With Whom Respondents Discussed Personal Concerns (multiple responses allowed)</b>	<b>(N=900) n</b>	<b>%</b>
Husband/partner	211	23
Peers/Friends	157	17
Community Member/Neighbour	98	11
Health Worker	67	7
Family Members	63	7
Religious Leader	17	2

Among those women who discussed their risk/concerns, 7 % (25/348) used a condom each time they had sex during pregnancy or since delivery. Among those women who did not discuss their risk/concerns about HIV, 4% (20/552) used a condom each time they had sex during pregnancy or since delivery.

The majority, 89% of women (n=798/900), did not use a condom each time they had sex during pregnancy or since delivery. About 6% (n=57/900) of the women had not had sex during pregnancy or since delivery. There was no significant difference in condom use between women who think *they are at risk* of becoming infected with HIV (less than 5%, n= 13/289) and women who think *they are not at risk* (slightly over 5%, n=32/611).

Sixty-one percent of women (n=545/900) reported trying at least one thing to reduce their risk of being infected with HIV or other STIs during the previous two months. Forty-eight percent of women (n=437/900) had sex with only one partner and 15% (136/900) abstained from sex. Very few women reported using condoms (6%) to reduce their risk of HIV.

There was no difference in risk reduction practices between women who believed they were at risk for HIV and those who believed they were not at risk. The following chart shows what mothers did – regardless of their being at risk or not – to reduce their risk of becoming infected with HIV and other STIs.



### *b. Voluntary Counseling and Testing (VCT)*

Women were asked questions on VCT to obtain a baseline of VCT uptake and knowledge. A total of 19% of women (n=169/900) said it was possible to get a voluntary and confidential HIV test. There were very few regional differences in knowledge about VCT outside of Addis Ababa (Annex 32).

Only 18% of all women (n=160/900) ever tested for HIV. Addis Ababa had the highest regional testing rate, with 58% of women ever testing (Annex 33), and 18% (n=160/900) tested during pregnancy. Most of the women who tested got their HIV test in a Government-run health facility – 7% (n=62/900) in a hospital and 8% (n=72/900) in a health center.

In some regions more women reported having been tested more than women reported the availability of VCT services in their kebele. This could be explained by the fact that these women may have gotten tested elsewhere outside of their kebele or Region. Alternatively, the women may perceive the tests as either confidential or voluntary (Annex 34).

An analysis of testing by perception of risk showed a significant association between not believing one is at risk and getting tested. Twenty-one percent of women (n=127/611) who did not believe they were at risk were tested compared to 11% (n=33/289) who tested and believed they were at risk. The majority, 69%, of tests were carried out during the last pregnancy (n=110/160), and this was more pronounced in Addis Ababa and Benishangul-Gumuz Regions (Annex 35).

The majority of women, 72% (115/160), consulted with someone before taking the test - 52% (60/115) consulted a health worker, 49% (57/115) consulted their spouse/partner, 24% (28/115) a family member/relative, and 6% consulted friends/peers. Women from Addis Ababa were the least likely to report consulting their husbands but the most likely to consult a health worker.

*c. PMTCT Knowledge*

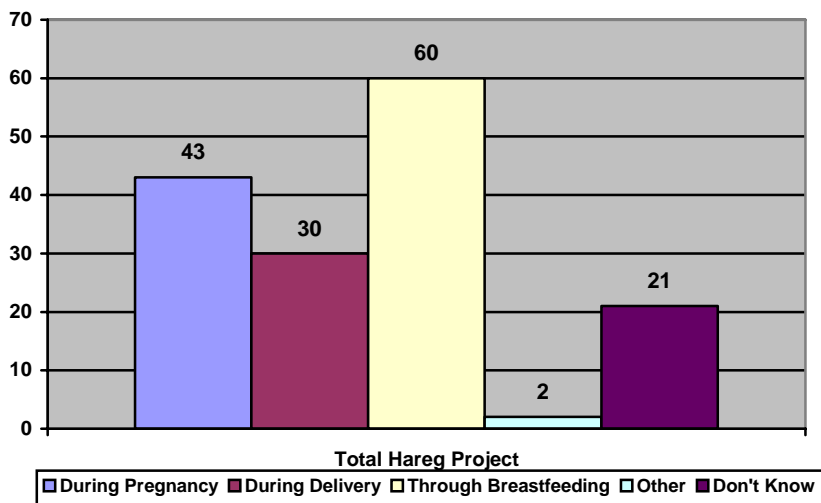
Having a baseline measurement of a community’s knowledge around MTCT will enable the program to know to where to target its resources at the community level and facility levels, and will be an important indicator to measure PMTCT uptake with knowledge over time.

**Correct Identification of Modes of Mother-to-child Transmission**

Only 13% (n=123/900) of women correctly identified the three ways that HIV can be transmitted from mother to child: during pregnancy, delivery and through breastfeeding; 29% (260/900) were able to correctly identify two modes of MTCT, and 34% (310/900) were able to identify one.

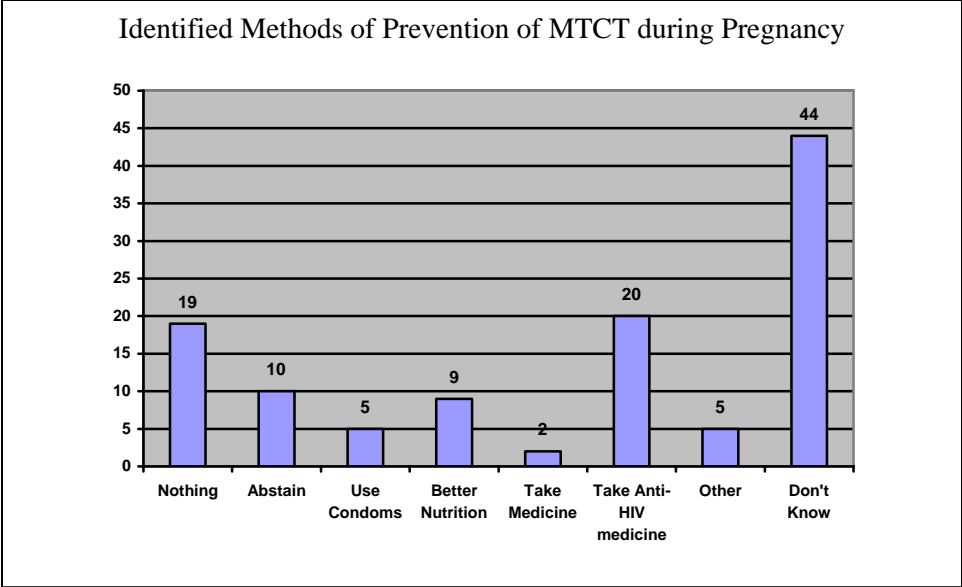
Almost 23% of all women did not know or did not identify any means of MTCT, and this was most pronounced in the Somali, Amhara and Tigray Regions (Annex 36).

**Figure 38: Identification of Transmission Modes**

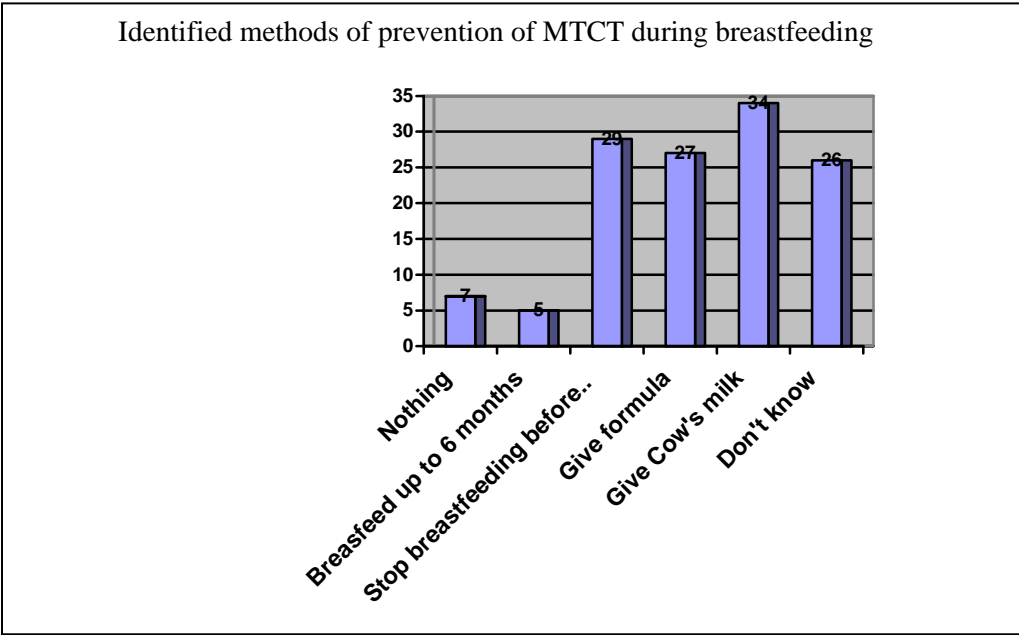


*d. Knowledge of Prevention Methods during Pregnancy and Breastfeeding*

Women were asked about their knowledge of preventing MTCT during pregnancy and breastfeeding. Eighteen percent (n=161/900) said nothing could be done during pregnancy and a substantial proportion of them reported “don’t know” (44%, n=391/900). About 29% (n=260/900) mentioned at least one prevention method, and 20% (n=176/900) suggested the mother should take anti-HIV medicine.



For prevention during the breastfeeding period, 35% of women (n=312/900) women were able to identify at least one method of prevention of MTCT. Twenty-one percent were able to identify two, and 12% (n=112/900) were able to identify three or more methods to prevent MTCT during breastfeeding. Provision of cow's milk was the most frequently reported method (34%, n= 303), followed by "stop or don't breastfeed" (29%, n= 263) and give formula (25%, n=241).



### *e. Attitudes and Stigma Associated with Breastfeeding and HIV*

Breastfeeding is the socially accepted norm in most developing countries. In many of these countries, women who do not breastfeed are often suspected of being HIV positive, and this makes it difficult for mothers who choose not to breastfeed to adhere to their infant feeding choice.

Very few women, 15% (131/900), specifically mention that a mother is suspected to be HIV positive if she does not breastfeed. Respondents from Benishangul-Gumuz were the most likely (36%, 54/150) to associate non-breastfeeding with HIV status, compared with 13% (20/150) in Amhara, 12% (18/150) in Addis Ababa and under 12% for the other regions (Annex 37).

## **Conclusions**

Results demonstrate that HIV and AIDS awareness and knowledge are varied. While almost all the women in the sample have heard of HIV and AIDS, only one in ten reported knowing the difference between HIV and AIDS. The majority of the women were able to identify at least one mode of HIV transmission, however less than a third mention MTCT as a possible mode.

Knowledge around PMTCT was quite low, particularly with respect to modes of transmission and prevention of MTCT during pregnancy. Less than a fifth of women identified all three modes of transmission and almost a quarter of the women did not know any mode of transmission. “Be faithful” was the most common response to how to prevent HIV transmission. Perception of risk was very low among this population, with the majority of the women believing they are not at risk for HIV primarily because they are or their partner is faithful.

The survey was carried out at the beginning of the PMTCT program as services were beginning to be offered. Both knowledge of the availability of VCT and VCT uptake among pregnant women is low. Nineteen percent of women said it was possible to get VCT in their kebele, and 18% of women reported having been tested. This is also the same percentage of women who reported receiving counseling on VCT/PMTCT during their ANC visit. Among those tested for HIV, the majority consulted somebody prior to taking the test, usually a health worker or their spouse.

Knowledge of prevention of MTCT during pregnancy and breastfeeding is low. Knowledge of appropriate infant feeding options shows higher knowledge about replacement feeding as the best way to prevent HIV transmission during the breastfeeding period of infancy.

## **Recommendations**

1. Increase awareness regarding PMTCT and testing availability, particularly during ANC, but also at the community level.

2. Integrate PMTCT and infant feeding interventions at the ANC. Involve the community to complement the health providers' effort to improve knowledge and practice of Infant and Young Child feeding.
3. Strengthen the awareness of the existing preventive measures, such as use of condoms during pregnancy and breastfeeding.
4. Increase awareness of the availability of confidential HIV through community mobilization activities.

**Annex 1: ENA in the context of HIV & AIDS**

## 7 Essential Nutrition Actions for HIV+ women and their infants & young children

<p>1. Optimal Breast-feeding:</p> <p>✓ <i>Depends on AFASS</i></p>	<p>2. Optimal Complementary Feeding:</p> <p>✓ <i>Appropriate CF at 6 months early cessation of BFing when AFASS</i></p>	<p>3. Feeding of the Sick Child:</p> <p>✓ <i>Feed more during &amp; after illness</i></p>	<p>4. Woman's health &amp; nutrition:</p> <p>✓ <i>Eat more during pregnancy &amp; lactation</i></p>	<p>5. Control of anemia</p> <p>✓ <i>Iron/folate tablets</i>                  ✓ <i>Control of malaria</i>                  ✓ <i>De-worming</i></p>	<p>6. Control of Vit A deficiency</p> <p>✓ <i>Vit A supplementation</i>                  ✓ <i>Eat Vit A rich foods</i></p>	<p>7. Control of IDD:</p> <p>✓ <i>Eat iodized salt</i></p>
<p>Infant Feeding options for HIV+ mothers</p>	<p>Infant Feeding options for HIV+ mothers</p>	<p>Nutrition Care of HIV+ Children ARVs &amp; nutrition</p>	<p>Nutrition Care of HIV+ Women Breast health ARVs &amp; nutrition</p>	<p>Malaria Control for HIV+ pregnant women Nutrition Care of HIV+ women &amp; children</p>	<p>Nutrition Care of HIV+ women &amp; children</p>	<p>Nutrition Care of HIV+ women &amp; children</p>

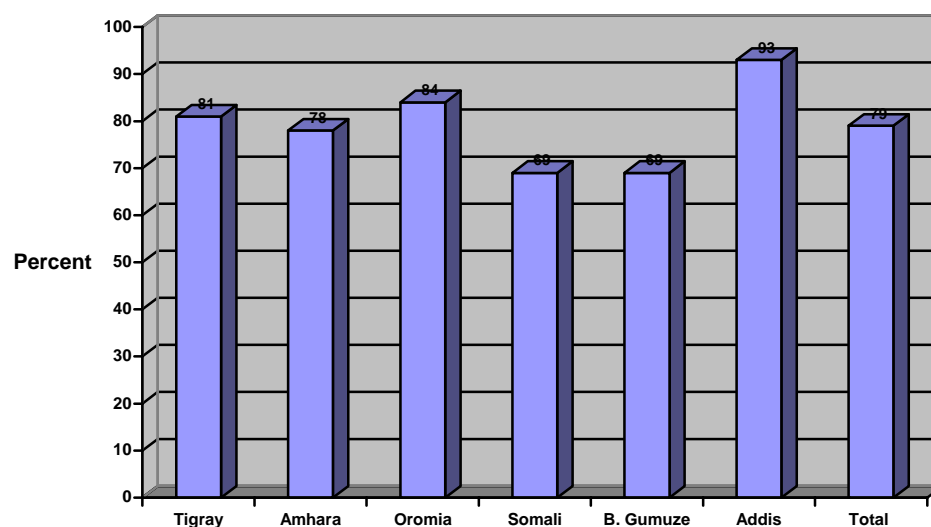
## Annex 2: Characteristics of sample population

	Tigray		Amhara		Oromia		Somali		B. Gumuz		Addis Ababa		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<b><i>Education(N=</i></b>														
No education	61	41	61	41	31	21	58	38.7	49	33	42	28	302	34
Grade 1-4/Informal	34	23	12	8	28	19	20	13.3	44	29	14	9	152	17
Grade 5-8	34	23	36	24	52	35	28	18.7	30	20	40	27	220	24
Secondary or higher	21	14	41	27	39	26	44	29.3	27	18	54	36	226	25
<b><i>Age (N=900)</i></b>														
15-19	18	12	24	16	13	9	8	5	32	21	9	6	104	12
20-24	36	24	44	29	60	40	40	27	55	37	55	37	290	32
25-29	43	29	55	37	44	29	56	37	43	29	48	32	289	32
30+	53	35	27	18	33	22	46	31	20	13	28	25	217	24
<b><i>Walking time to facility (N=827)</i></b>														
Less than 5 minutes	22	15	9	6.5	5	3.7	20	16.1	12	8.7	25	17.5	93	11.2
5-15 minutes	61	41.5	41	29.5	21	15.4	54	43.5	54	39.1	49	34.3	280	33.9
15-30 minutes	52	35.4	35	25.2	29	21.3	36	29	37	26.8	31	21.7	220	26.6
Greater than 30 Minutes	12	8.2	54	38.8	81	59.6	14	11.3	35	25.4	38	26.6	234	28.3
<b><i>Infant age in months (N=900)</i></b>														
0-3	53	35.3	62	41.3	49	32.7	55	36.7	43	28.7	41	27.3	303	33.7
4-5	22	14.7	19	12.7	28	18.7	27	18	31	20.7	27	18	154	17.1
6-9	59	39.3	50	33.3	53	35.3	52	34.7	60	40	48	32	322	35.8
10-11	16	10.7	19	12.7	20	13.3	16	10.7	16	10.7	34	22.7	121	13.4

### Annex 3: Types of facilities visited, by region and site

Type of Facility	Tigray		Amhara		Oromia		Somali		B. Gumuz		Addis Ababa	
	N	%	N	%	N	%	N	%	N	%	N	%
Government Hospital	38	25.5	31	20.9	73	49.7	84	56.4	79	52.7	9	6.0
Government Health center/Clinic	110	73.8	92	62.2	62	42.2	32	21.5	70	46.7	137	91.3
Private Hospital/Clinic	1	0.7	16	10.8	6	4.1	29	19.5	1	0.7	4	2.7
Other Health provider	----	-----	9	6.1	6	4.1	4	2.7	-----	-----	----	----

### Annex 4: ANC attendance during last pregnancy, by region



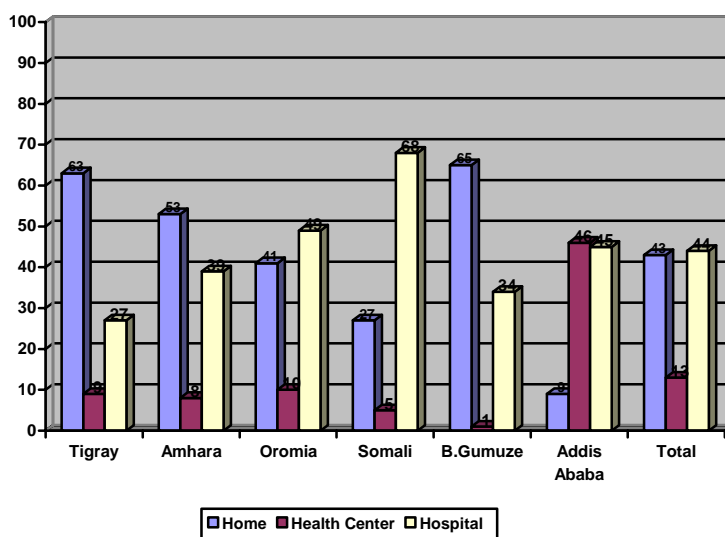
### Status of ANC Attendance during last pregnancy at the PMTCT sites, by region

Status	Tigray		Amhara		Oromia		Somali		B. Gumuz		Addis Ababa		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Attend	122	81	117	78	126	84	104	69	104	69	140	93	713	79
Not Att.	28	19	33	22	24	16	46	31	46	31	10	7	187	21
<b>Total</b>	150	100	150	100	150	100	150	100	150	100	150	100	900	100

### Annex 5 : Type of counseling service received by region

Counseling Service	Tigray		Amhara		Oromia		Somali		B. Gumuz		Addis Ababa		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Counseling on Diet	103	69	65	43	59	39	73	49	77	51	96	64	473	53
Counseling on Benefits of EBF	36	24	32	21	49	33	28	19	8	5	83	55	236	26
Counseling on Infant Feeding Options	33	22	25	17	33	22	14	9	53	35	56	37	214	24
Infant Feeding Demonstration	19	13	25	17	34	23	13	9	16	11	49	33	156	17
HIV and Breastfeeding Information	11	7	13	9	39	26	6	4	18	12	94	63	181	20
HIV/AIDS Prevention Information	16	11	27	18	39	26	10	7	21	14	76	51	189	21
Counseling for VCT/PMTCT	5	3	13	9	22	15	3	2	15	10	73	49	131	15
Not counseled	28	19	33	22	24	16	46	31	46	31	10	7	187	21
<b>Total</b>	<b>150</b>	<b>100</b>	<b>150</b>	<b>100</b>	<b>150</b>	<b>100</b>	<b>150</b>	<b>100</b>	<b>150</b>	<b>100</b>	<b>150</b>	<b>100</b>	<b>900</b>	<b>100</b>

### Annex 6: Place of Delivery, by Region



### Place of delivery by region

	Tigray		Amhara		Oromia		Somali		B. Gumuz		Addis Ababa		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<b>Home</b>	95	63	80	53	61	41	41	27	97	65	13	9	387	43
<b>HealthCenter</b>	14	9	12	8	15	10	7	5	2	1	69	46	119	13
<b>Hospital</b>	41	27	58	39	74	49	102	68	51	34	68	45	394	44
<b>Total</b>	<b>150</b>	<b>100</b>	<b>150</b>	<b>100</b>	<b>150</b>	<b>100</b>	<b>150</b>	<b>100</b>	<b>150</b>	<b>100</b>	<b>150</b>	<b>100</b>	<b>900</b>	<b>100</b>

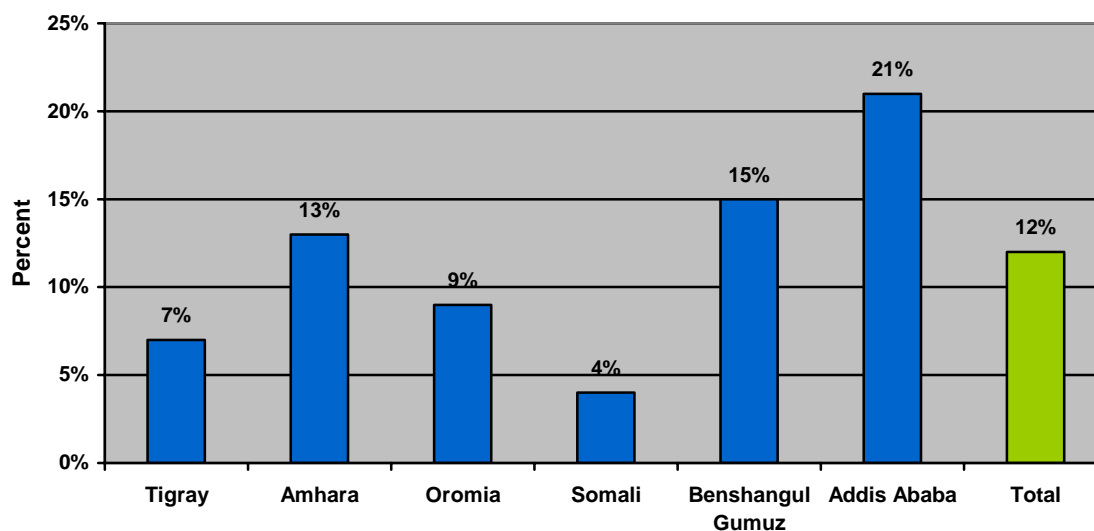
### Annex 7: Place of Delivery by Education

		<b>None</b>	<b>Primary</b>	<b>Secondary and higher</b>	<b>Total</b>
At home	N	182	163	42	387
	%	60	44	19	43
In a health center	N	35	55	29	119
	%	12	15	13	13
In a hospital	N	85	154	155	394
	%	28	41	69	44
Total	N	302	372	226	900
	%	100	100	100	100

### Annex 8: Type of assistance at delivery by regional PMTCT sites

	<b>Tigray</b>		<b>Amhara</b>		<b>Oromia</b>		<b>Somali</b>		<b>B. Gumuz</b>		<b>Addis Ababa</b>		<b>Total</b>	
	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>
TBA	55	37	60	40	25	17	28	19	38	25	4	3	210	23
Health provider	55	37	72	48	90	60	113	75	55	37	136	91	521	58
Family/ neighbor	39	26	12	8	35	23	9	6	56	37	8	5	159	18
No one	1	1	6	4	0	0	0	0	1	1	2	1	10	1
Total	150	100	150	100	150	100	150	100	150	100	150	100	900	100

## Annex 9: Receipt of postpartum Vitamin A, by Region



### Status of vitamin A supplementation since delivery

	Tigray		Amhara		Oromia		Somali		B. Gumuz		Addis Ababa		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Received	11	7	20	13	13	9	6	4	23	15	32	21	105	12
Not received	139	93	130	87	137	91	144	96	126	85	117	79	793	88
Total	150	100	150	100	150	100	150	100	149	100	149	100	898	100

## Annex 10: Current breastfeeding status, by Region

### Current status of breastfeeding by regional PMTCT sites

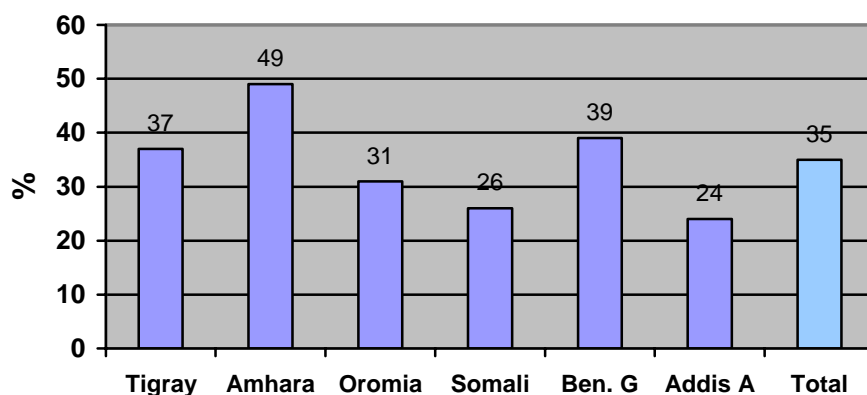
	Tigray		Amhara		Oromia		Somali		B. Gumuz		Addis Ababa		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Currently breastfeeding	148	99	145	97	143	95	139	93	147	98	124	83	846	94
Currently not breastfeeding	2	1	5	3	7	5	11	7	3	2	23	15	50	6
Total	150	100	150	100	150	100	150	100	150	100	150	100	900	100

## Annex 11: Timely Initiation of breastfeeding, by region

### Timely Initiation of breastfeeding by regional PMTCT sites

	Tigray		Amhara		Oromia		Somali		B. Gumuz		Addis Ababa		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Within 1 hour	70	47	82	55	66	44	73	49	79	53	94	63	464	52
More than 1 hour- same day	44	29	36	24	68	45	53	35	31	21	36	24	268	30
More than 1 day	35	23	32	21	15	10	16	11	38	25	16	11	152	17
Don't know	1	1	0	0	0	0	8	5	2	1	1	1	12	1
Never breastfed	0	0	0	0	1	1	0	0	0	0	3	2	4	0
Total	150	100	150	100	150	100	150	100	150	100	150	100	900	100

## Annex 12: Exclusive Breastfeeding Rate, by Region



### Exclusive breastfeeding rate for 0 - < 6 months in PMTCT sites, by region

	Tigray		Amhara		Oromia		Somali		B. Gumuz		Addis Ababa		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Exclusive breastfeeding	28	37	40	49	24	31	21	26	29	39	16	24	158	35
No exclusive breastfeeding	47	63	41	51	53	69	61	74	45	61	52	77	299	65
Total	75	100	81	100	77	100	82	100	74	100	68	100	457	100

### Annex 13: Exclusive breastfeeding, by age and region

#### Exclusive breastfeeding by age group and regional PMTCT sites

Age group		Tigray		Amhara		Oromia		Somali		B. Gumuz		Addis Ababa		Total	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
0 - < 2 months	EBF	22	73	24	69	6	27	14	44	18	90	4	18	88	55
	Not EBF	8	27	11	31	16	73	18	56	2	10	18	82	73	45
	Total	30	100	35	100	22	100	32	100	20	100	22	100	161	100
2 - < 4 months	EBF	5	22	11	41	13	48	4	17	9	39	7	37	49	35
	Not EBF	18	78	16	59	14	52	19	83	14	61	12	63	93	66
	Total	23	100	27	100	27	100	23	100	23	100	19	100	142	100
4 - < 6 months	EBF	1	5	5	26	5	18	3	11	2	6	5	19	21	14
	Not EBF	21	95	14	74	23	82	24	89	29	94	22	82	133	86
	Total	22	100	19	100	28	100	27	100	31	100	27	100	154	100
Total ( 0 - < 6 m)	EBF	28	37	40	49	24	31	21	26	29	39	16	24	158	35
	Not EBF	47	63	41	51	53	69	61	74	45	61	52	77	299	65
	Total	75	100	81	100	77	100	82	100	74	100	68	100	457	100

## Annex 14: Exclusive and mixed feeding, by age group

Exclusive versus mixed feeding by age group								
	0 - < 2 months		2 - < 4 months		4 - < 6 months		Total	
	N	%	N	%	N	%	N	%
EBF	88	55	49	35	21	14	158	35
Mixed Feeding	68	42	87	61	125	81	280	61
Not breastfeeding	5	3	6	2	8	5	19	4
Total	161	100	142	100	154	100	457	100

## Annex 15: Feeding practice for infants aged 0 - < 6 months

Feeding practice for infants aged 0 - < 6 months		
	N	%
Exclusively breastfed	158	35
Breastmilk and water only	77	17
Breastmilk and other milk only	54	12
Breastmilk and solids	75	16
Solids, no breastmilk	7	2
No breastmilk, no solids	12	3
Breastmilk and Infant formula only	28	6
Breastmilk and other liquid only	46	10
Total	457	100

## Annex 16: Feeding practice for 0 - < 6 month old infants by type of feeding and age group

Feeding practice for 0 - < 6 month old infants by type of feeding and single age group												
Age	Exclusively breastfed		Breastmilk and water only		Breastmilk and any other liquids		Breastmilk and solids		No breastmilk, no solids		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
0 month	40	61	6	9	15	23	3	5	2	3	66	100
1 month	48	51	22	23	21	22	2	2	2	2	95	100
2 month	33	42	16	21	25	32	2	3	2	3	78	100
3 month	16	25	14	22	22	34	8	13	4	6	64	100
4 month	11	15	9	12	24	33	24	33	5	7	73	100
5 month	10	12	10	12	21	26	36	44	4	5	81	100
Total	158	35	77	17	128	28	75	16	19	4	457	100

## Annex 17: Frequency of breastfeeding for infants 0 - < 6 months

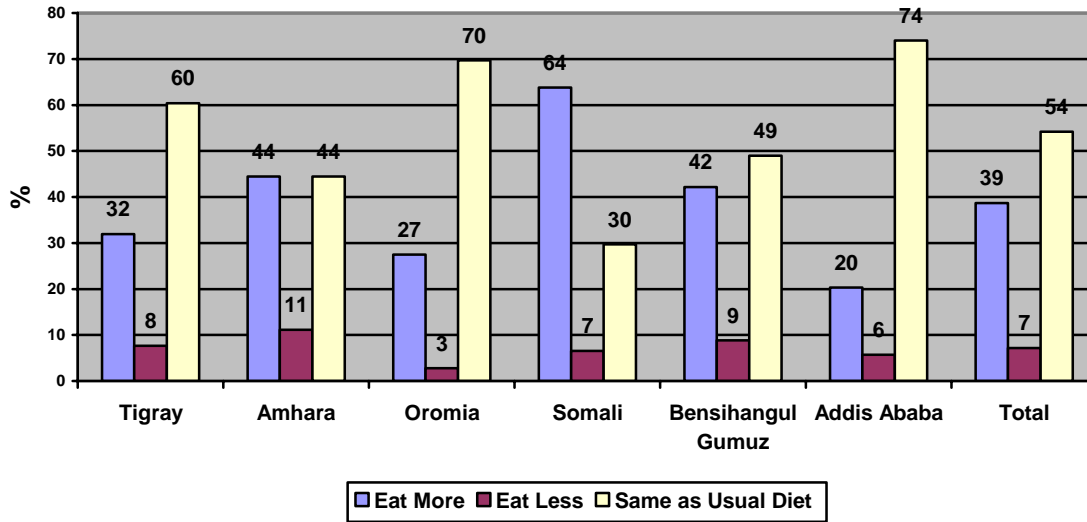
	Frequency of breastfeeding for infants 0 - < 6 months									
	Less than 7 times		8-10 times		More than 10 times		Not BF		Total	
	N	%	N	%	N	%	N	%	N	%
Exclusive breastfeeding	39	25	42	27	77	49	0	-	158	100
Not exclusive breastfeeding	61	20	83	28	133	45	22	7	299	100
Total	100	22	125	27	210	46	22	5	457	100

## Annex 18: Breast problem by timing of initiation of breastfeeding for infants 0 - < 6 months

### Breast problem by timing of initiation of breastfeeding for infants 0 - < 6 months

		Timing of Initiation				Total
		Within 1 hour	Between 1 and 8 hours	More than 8 hours/ same day	More than one day	
Report problem	N	24	17	3	15	59
	%	11	14	18	21	14
Not report problem	N	193	105	14	58	370
	%	89	86	82	79	86
Total	N	217	122	17	73	429
	%	100	100	100	100	100

## Annex 19: Dietary practices during breastfeeding

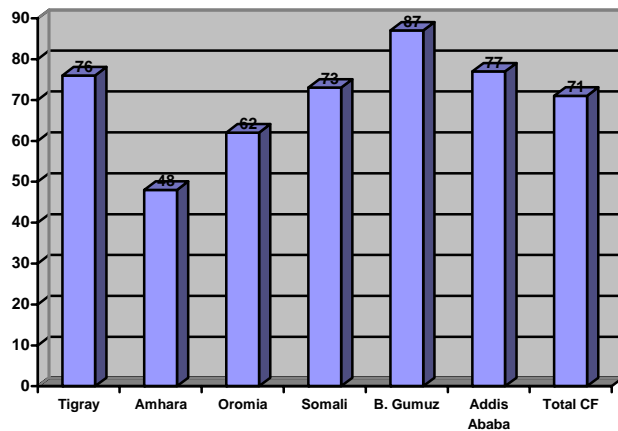


### Status of diet change while breastfeeding by regional PMTCT sites

	Tigray		Amhara		Oromia		Somali		B. Gumuz		Addis Ababa		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Eat More	46	32	64	44	39	28	88	64	62	42	25	20	324	39
Eat Less	11	8	16	11	4	3	9	7	13	9	7	6	60	7
No difference	87	60	64	44	99	70	41	30	72	49	91	74	454	54
Total	144	100	144	100	142	100	138	100	147	100	123	100	838	100

## Annex 20

### Timely Complementary Feeding of Infants 6-<10 Months by Region



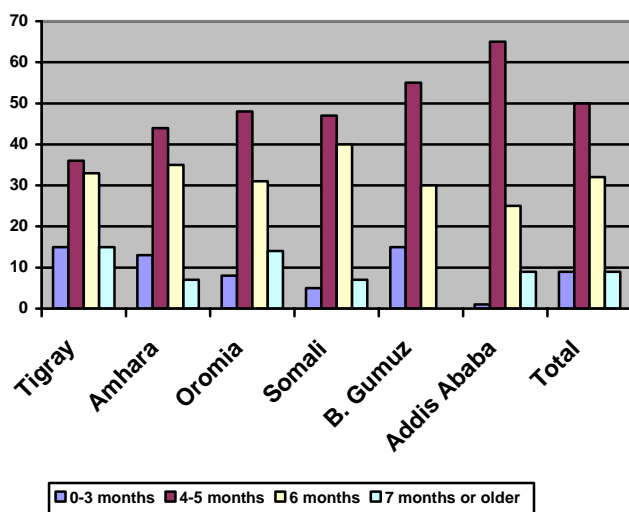
#### Complementary feeding rate, infants 6 - < 10 months, by Region

	Tigray		Amhara		Oromia		Somali		B. Gumuz		Addis Ababa		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Given CF	45	76	24	48	33	62	38	73	52	87	37	77	229	71
Not given CF	14	24	26	52	20	38	14	27	8	13	11	23	93	29
Total	59	100	50	100	53	100	52	100	60	100	48	100	322	100

**Annex 21:****Complementary feeding at 6 - < 10 months – when animal milk is included**

	<b>Complementary Feeding</b>		<b>No Complementary Feeding</b>		<b>Total</b>	
	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>
Tigray	61	81	14	19	75	100
Amhara	48	70	21	34	69	100
Oromia	63	86	10	14	73	100
Somali	50	73	18	27	68	100
B. Gumuz	66	87	10	13	76	100
Addis Ababa	65	79	17	21	82	100
Total	353	80	90	20	443	100

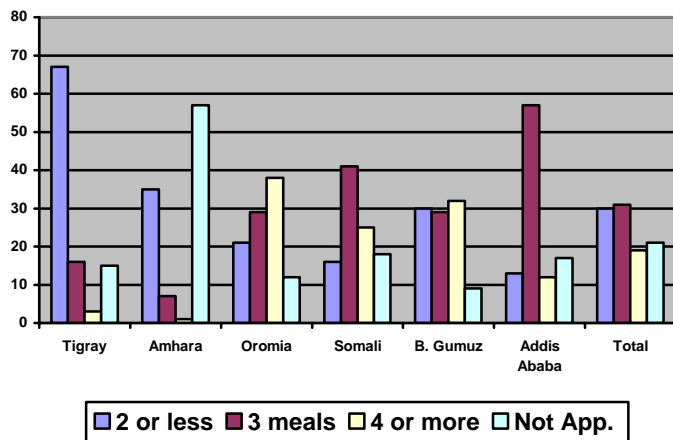
## Annex 22: Age at introduction of complementary foods among infants 6-<12 months



Age in months semi-solid food started by infants in the age group 6 - < 12 months by regional PMTCT sites

	Tigray		Amhara		Oromia		Somali		B. Gumuz		Addis Ababa		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
0-3 months	10	15	7	13	5	8	3	6	11	15	1	1	37	9
4-5 months	24	36	24	44	31	48	26	47	41	55	52	65	198	50
6 months	22	33	19	35	20	31	22	40	22	30	20	25	125	32
7 months or older	10	15	4	7	9	14	4	7	0	0	7	9	34	9
Total	66	100	54	100	65	100	55	100	74	100	80	100	394	100

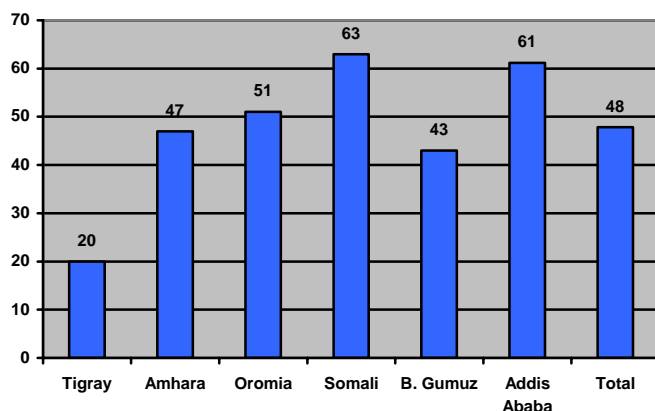
### Annex 23: Frequency of Meals by Region



### Frequency of meals by regional PMTCT sites

# of meal per day	Tigray		Amhara		Oromia		Somali		B. Gumuz		Addis Ababa		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
2 or less	50	67	24	35	15	21	11	16	23	30	11	13	134	30
3 meals	12	16	5	7	21	29	28	41	22	29	47	57	135	31
4 or more	2	3	1	1	28	38	17	25	24	32	10	12	82	19
Not Applicable	11	15	39	57	9	12	12	18	7	9	14	17	92	21
Total	75	100	69	100	73	100	68	100	76	100	82	100	443	100

## Annex 24: Bottle Feeding by Region



### Use of bottle feeding by infants who were fed liquids by regional PMTCT sites

Feeding Bottle	Tigray		Amhara		Oromia		Somali		B. Gumuz		Addis Ababa		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Used	24	20	44	47	64	51	76	63	52	43	82	61	342	48
Not used	95	80	50	53	62	49	45	37	69	57	52	39	373	52
Total	119	100	94	100	126	100	121	100	121	100	134	100	715	100

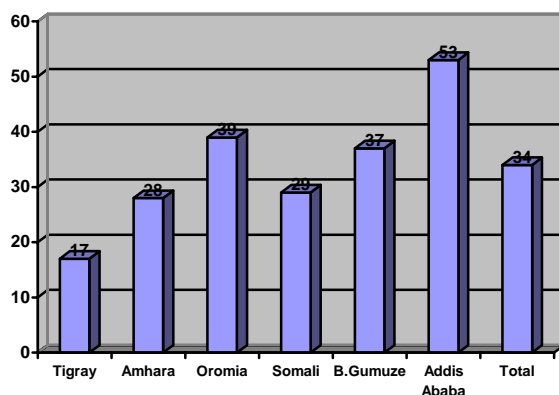
### Annex 25: Source of infant feeding advise by regional PMTCT sites

	Tigray		Amhara		Oromia		Somali		B. Gumuz		Addis Ababa		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
No body	74	49	79	53	63	42	61	41	50	33	57	38	384	43
Spouse	44	29	10	7	25	17	21	14	100	67	24	16	224	25
Health Provider	27	18	33	22	24	16	39	26	37	25	59	39	219	24
Mother/mother in law	22	15	18	12	20	13	37	25	42	28	14	9	153	17
Friends/neighbour	14	9	18	12	34	23	28	19	59	39	17	11	170	19
Total	150	100	150	100	150	100	150	100	150	100	150	100	900	100

## Annex 26: Distribution of “who decides what to feed babies” by PMTCT site

	Tigray		Amhara		Oromia		Somali		B. Gumuz		Addis Ababa		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Mother only	89	59	113	76	118	79	109	73	36	24	123	82	588	65
Father only	18	12	4	3	3	2	2	1	1	1	3	2	31	3
Mother & Father	35	23	18	12	21	14	24	16	81	54	20	13	199	22
<b>Total</b>	<b>150</b>	<b>100</b>	<b>149</b>	<b>100</b>	<b>150</b>	<b>100</b>	<b>150</b>	<b>100</b>	<b>150</b>	<b>100</b>	<b>150</b>	<b>100</b>	<b>899</b>	<b>100</b>

## Annex 27: Percent Currently Using Family Planning by Region



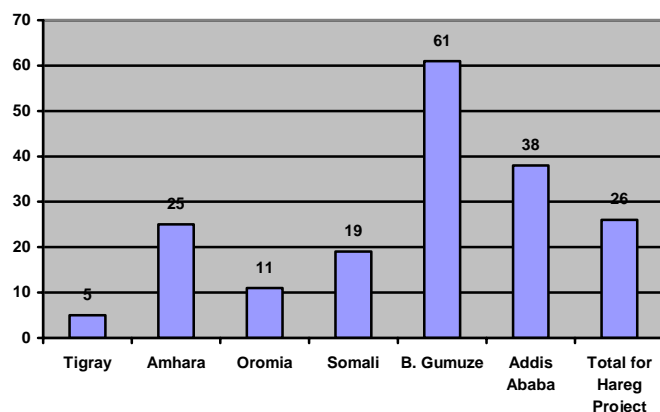
## Status of currently using family planning by regional PMTCT sites

	Tigray		Amhara		Oromia		Somali		B. Gumuz		Addis Ababa		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<b>Currently using FP</b>	25	17	42	28	59	39	44	29	55	37	79	53	304	34
<b>Not Currently</b>	45	30	23	15	17	11	14	9	26	17	9	6	134	15
<b>Never used</b>	80	53	85	57	74	49	92	61	69	46	62	41	462	51
<b>Total</b>	<b>150</b>	<b>100</b>	<b>150</b>	<b>100</b>	<b>150</b>	<b>100</b>	<b>150</b>	<b>100</b>	<b>150</b>	<b>100</b>	<b>150</b>	<b>100</b>	<b>900</b>	<b>100</b>

## Annex 28: Knowledge of HIV and AIDS by region

			Tigray	Amhara	Oromia	Somali	B. Gumuz	Addis Ababa	Total	
Have heard of HIV and AIDS	Yes	N	149	146	148	140	150	150	883	
		%	99	97	99	93	100	100	98	
	No	N	1	4	2	10	0	0	17	
		%	1	3	1	7	0	0	2	
			N	150	150	150	150	150	150	900
			%	100	100	100	100	100	100	100
Know the difference between HIV and AIDS	Yes	N	13	19	13	23	7	15	90	
		%	9	13	9	15	5	10	10	
	No	N	134	128	135	122	143	134	796	
		%	89	85	90	81	95	89	88	
	Not Stated	N	3	3	2	5	0	1	14	
		%	2	2	1	3	0	1	2	
			N	150	150	150	150	150	150	900
			%	100	100	100	100	100	100	100

## Annex 29: Percent Women Mentioning MTCT as Mode of Transmission by Region



### Women who mentioned PMTCT as mode of transmission by regional PMTCT sites

	Tigray		Amhara		Oromia		Somali		B. Gumuz		Addis Ababa		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Mentioned PMTCT	8	5	38	25	16	11	28	19	91	61	57	38	238	26
Not mentioned	142	95	112	75	134	89	122	81	59	39	93	62	662	74
Total	150	100	150	100	150	100	150	100	150	100	150	100	900	100

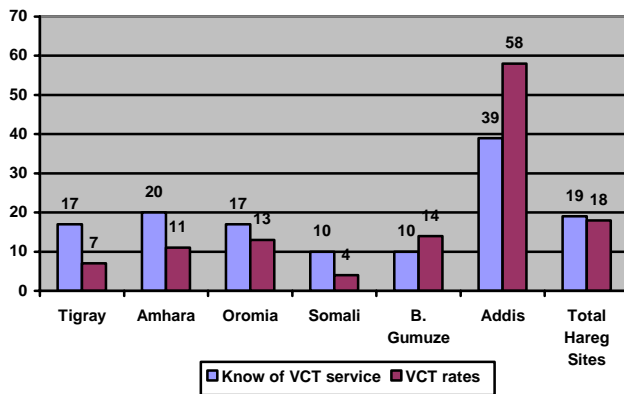
## Annex 30: Knowledge of prevention of HIV and AIDS by region

		Tigray	Amhara	Oromia	Somali	B. Gumuz	Addis Ababa	Total
Abstinence	N	26	70	76	74	119	102	467
	%	17	47	51	49	79	68	52
Use condom	N	64	82	54	52	100	93	445
	%	43	55	36	35	67	62	49
Avoid sharing SHARPS/Sterilize SHARPS	N	42	17	24	19	1	6	109
	%	28	11	16	13	1	4	12
Other	N	4	3	7	25	0	7	46
	%	3	2	5	17	0	5	5
Total	N	150	150	150	150	150	150	900
	%	100	100	100	100	100	100	100

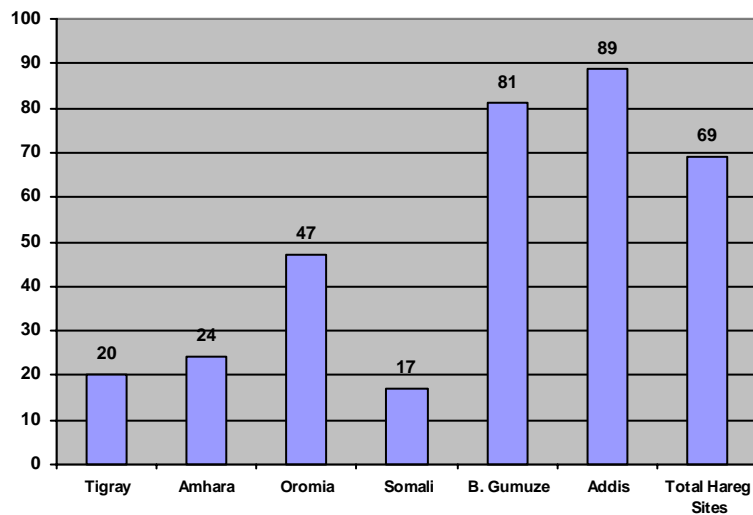
### Annex 31: Perception of HIV risk by reason

	Don't feel at risk		Feel at risk	
	n=900		n=900	
	N	%	N	%
Total not feel at risk	611	68	Total feel at risk	289 32
Partner is faithful	262	29	Don't trust partner	147 16
One partner	208	23	Accident	110 12
Other reason	92	11	Other reason	26 3
Don't Know	49	5	Don't know	6 1

### Annex 32: Knowledge and uptake of VCT services by region



### Percent Women Tested Who Tested During Pregnancy by Region



**Knowledge on possibility to get confidential test in their locality by regional PMTCT sites**

		<b>Tigray</b>	<b>Amhara</b>	<b>Oromia</b>	<b>Somali</b>	<b>B. Gumuz</b>	<b>Addis Ababa</b>	<b>Total</b>
Yes, there is	N	25	30	25	15	15	59	169
	%	17	20	17	10	10	39	19
No there is none	N	58	77	90	57	81	54	417
	%	39	51	60	38	54	36	46
Don't know	N	67	43	35	78	54	37	314
	%	45	29	23	52	36	25	35
Total	N	150	150	150	150	150	150	900
	%	100	100	100	100	100	100	100

**Annex 33: Testing status by region**

		<b>Tigray</b>	<b>Amhara</b>	<b>Oromia</b>	<b>Somali</b>	<b>B. Gumuz</b>	<b>Addis Ababa</b>	<b>Total</b>
Tested	N	10	17	19	6	21	87	160
	%	7	11	13	4	14	58	18
Not tested	N	140	133	131	144	129	63	740
	%	93	89	87	96	86	42	82
Total	N	150	150	150	150	150	150	900
	%	100	100	100	100	100	100	100

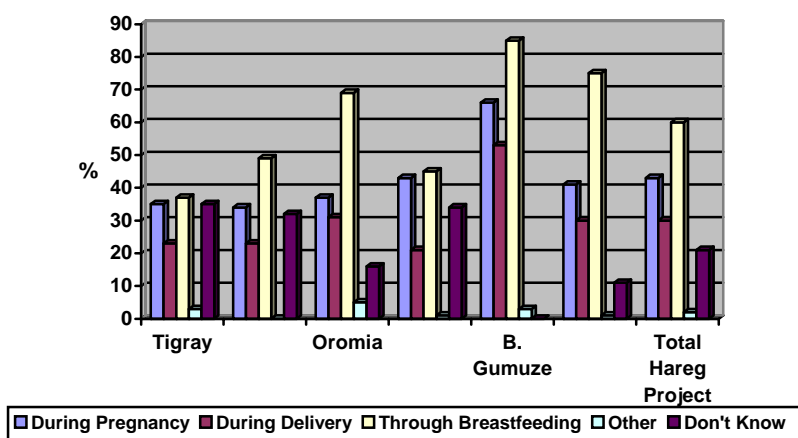
**Annex 34: Knowledge and uptake of VCT by region**

		<b>Tigray</b>	<b>Amhara</b>	<b>Oromia</b>	<b>Somali</b>	<b>Ben . G</b>	<b>Addis Ababa</b>	<b>Total</b>
Know of VCT	N	25	30	25	15	15	59	169
	%	17	20	17	10	10	39	19
VCT rate	N	10	17	19	6	21	87	160
	%	7	11	13	4	14	58	18
Total	N	150	150	150	150	150	150	900
	%	100	100	100	100	100	100	100

### Annex 35: Women testing for HIV during last pregnancy by region

		Tigray	Amhara	Oromia	Somali	B. Gumuz	Addis Ababa	Total
Tested during pregnancy	N	2	4	9	1	17	77	110
	%	20	24	47	17	81	89	69
Total tested	N	10	17	19	6	21	87	160
	%	100	100	100	100	100	100	100

### Annex 36: Identification of HIV transmission modes



### Identification of MTCT transmission of mode of HIV by regional sites

		Tigray	Amhara	Oromia	Somali	B. Gumuz	Addis Ababa	Total
Don't know	N	55	49	26	54	5	18	207
	%	37	33	17	36	3	12	23
1 Mode mentioned	N	47	58	55	44	45	61	310
	%	31	39	37	29	30	41	34
2 Mode mentioned	N	44	29	48	40	45	54	260
	%	29	19	32	27	30	36	29
3 Modes mentioned	N	4	14	21	12	55	17	123
	%	3	9	14	8	37	11	14
Total	N	150	150	150	150	150	150	900
	%	100	100	100	100	100	100	100

### Annex 37: Attitudes towards no breastfeeding, by region

#### Attitude towards mother not breastfeeding by regional sites

		Tigray	Amhara	Oromia	Somali	B. Gumuz	Addis Ababa	Total
Child Will Get HIV	N	1	4	9	13	23	18	68
	%	1	3	6	9	15	12	8
Have Money For Formula	N	15	29	28	17	73	11	173
	%	10	19	19	11	49	7	19
Suspect Mother Has HIV	N	5	20	17	17	54	18	131
	%	3	13	11	11	36	12	15
Child Can Die	N	4	15	30	20	21	2	92
	%	3	10	20	13	14	1	10
Breasts Have No Milk	N	13	8	16	11	1	5	54
	%	9	5	11	7	1	3	6
Protecting Self/Posture	N	15	9	4	22	5	11	66
	%	10	6	3	15	3	7	7
Brutal/Hates Child	N	5	16	1	4	8	2	36
	%	3	11	1	3	5	1	4
Other	N	51	28	61	35	5	13	193
	%	34	19	41	23	3	9	21
Total	N	150	150	150	150	150	150	900
	%	100	100	100	100	100	100	100