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College of Health Science

Department of Nursing and Midwifery

Assessment of Antenatal Care Clients' Willingness for HIV Counseling and Testing in Asella Governmental Health Institutions, Ethiopia.

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Advisor	Signature	date
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Tadesse Fikre May 2012

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Acronyms and Abbreviations

AIDS Acquired Immunodeficiency Syndrome

ANC Antenatal Care

AOR Adjusted Odds Ratio

ART Antiretroviral Therapy

ARV Antiretroviral

CDC Centers for Disease Control and Prevention

CI Confidence Interval

EDHS Ethiopia Demographic Health Survey

EGPAF Elizabeth Glaser Pediatric AIDS Foundation

HAPCO HIV/AIDS Prevention and Control Office

HCT HIV Counseling and Testing

HIV Human Immunodeficiency Virus

MARP Most-At-Risk Populations

MCH Maternal and Child Health

MOH Ministry of Health

MTCT Mother-to-Child Transmission

OR Odds ratio

PEPFAR President's Emergency Plan for AIDS Relief

PICT Provider-Initiated HIV Counseling and Testing

PLWHA People Living with HIV/AIDS

PMTCT Prevention of Mother-to-Child Transmission

SPSS Statistical Package for Social Science Research

STI Sexually Transmitted Infection

UNAIDS Joint United Nations Programme on HIV/AIDS

UNGASS United Nations General Assembly Special Session

UNICEF United Nations Children's Fund

USAID United States Agency for International Development

VCT Voluntary Counseling and Testing

WHO World Health Organization

Abstract

Background:- It has been well established that mother to child transmission (MTCT) accounts for the majority of HIV infections in children below the age of 15 years in developing countries. HIV counseling and testing (HCT) is an important entry point for HIV prevention and for early access to treatment, care and support. Willingness for accepting HCT is the key component and a starting point of overall HIV prevention efforts and represents a critical opportunity for stemming the tide of the HIV epidemic.

Objective:- The main objective of this study was to assess the willingness of antenatal care clients for HIV counseling and testing in Asella governmental health institutions.

Methods:- Institutional based cross sectional study was conducted on 321 pregnant women attended antenatal care during the study period using interviewer administered, pre-tested, structured questionnaire from March to April, 2012 in Asella governmental health institutions. Data was collected by convenient sampling technique after ethical clearance was obtained from the concerned authorities and then entered in Epi-info and analyzed using SPSS software.

Result:- A total of 321 pregnant women (response rate 100%) attended antenatal care in Asella hospital and Asella health center were included in the study. Among the studied women 291(90.7%) were willing for HCT, and 30 (9.3%) were not willing for HCT. The strongest association with willingness for HCT rested with parity, number of ANC visits and perceived risk of HIV. Primipara women were about 12 times more likely willing for HCT than nullipara mothers (AOR=12.33, 95% CI=1.25,121.57), and also those who had 2 and above ANC visits were 9.6 times more likely willing for HCT than those who had only 1 ANC visit (AOR=9.64, 95% CI=1.93,48.28). Women who were perceived themselves not at risk of acquiring HIV were more likely willing for HCT than those women who perceived themselves at risk (AOR=0.08, 95% CI=0.01,0.41).

Conclusion and Recommendation: This study revealed high-level of awareness about HIV, HCT, MTCT and PMTCT of HIV among pregnant women attended ANC in the study areas. Relatively increased proportion of willingness for HCT was seen when compared to other studies and it has to be encouraged more, since it is a cornerstone for PMTCT of HIV. Health education targeted on pregnant women on HCT, MTCT and PMTCT of HIV using different resources and male partner participation would have paramount importance and would be important factor to scale up HCT acceptance more at all levels.

1. Introduction

1.1 Background

The human immunodeficiency virus (HIV) has created an enormous challenge worldwide. Since its recognition, HIV has infected close to 70 million people, and more than 30 million have died due to acquired immunodeficiency syndrome (AIDS) (1).

According to the recently released joint World Health Organization (WHO), Joint United Nations Programme on HIV/AIDS (UNAIDS) and United Nations Children's Fund (UNICEF) Universal Access report 2009, 33.4 million people were estimated to be living with HIV Worldwide (2); 15.7 million of these were women and 2 million were children younger than 15 years of age. Globally, HIV prevalence varies substantially, ranging from less than 0.1% in places such as Bosnia and Herzegovina and the Republic of Korea to 26.1% in Swaziland (3).

In 2009, around 400,000 children aged under 15 became infected with HIV (4). Almost all of these infections occurred in low and middle-income countries, and more than 90% were the result of mother-to-child transmission (MTCT) during pregnancy, labour and delivery, or breastfeeding. Without interventions, there is a 20-45% chance that a baby born to an HIV-infected mother will become infected (3).

The epidemics and the impact of HIV/AIDS vary considerably from country to country across Africa, depending on the size and duration of the outbreak (4, 5). Most countries, including Ethiopia, have generalized epidemics. According to the Joint United Nations Program on HIV/AIDS (UNAIDS), adult prevalence estimates ranging from 0.1% in Madagascar to more than 20% in some of the countries in the southern cone, including Botswana (24.8%), Lesotho (23.6%), and Swaziland (26.1%).

It has been well established that mother to child transmission (MTCT) accounts for the majority of HIV infections in children below the age of 15 years in developing countries (1). The rate of transmission from an untreated HIV positive pregnant woman to her newborn is high. Around 300,000 children in sub-Saharan Africa became infected with HIV in 2009 (4).

The vast majority of these children (more than 90%) have been infected with HIV during pregnancy, childbirth or breastfeeding, as a result of their mother being infected with the virus.

Ethiopia is the second most populous and one of the seriously affected countries in sub-Saharan Africa (1). With an estimated 1.1 million people living with HIV, Ethiopia has one of the largest populations of HIV infected people in the world (6). However, HIV prevalence among the adult population is lower than many sub-Saharan African countries.

In 2007, the estimated adult HIV/AIDS prevalence in Ethiopia was 2.1%. Although the epidemic is currently stable, HIV/AIDS remains a major development challenge for Ethiopia. Poverty, food shortages, and other socio-economic factors amplify the impact of the epidemic. HIV prevalence was increased slightly to 2.3% by 2009.

A report from USAIDS 2010 indicates that, Ethiopia represents a low-level, generalized epidemic driven by most-at-risk populations (MARPs) (7). Heterosexual contact is the primary mode of HIV transmission, and young women are at particularly high risk. According to this report, HIV/AIDS prevalence is higher among women (2.6%) than men (1.8%) in Ethiopia, and in urban areas, women are 1.5 times as likely to be infected as men (9.2% and 6.2% prevalence, respectively). Physical abuse of women also is common throughout the country; between 40% and 60% of women experience sexual and/or physical abuse by their partners, increasing their vulnerability to HIV (7).

According to PEPFAR Ethiopia COP REPORT 2010, an estimated 93% of deliveries occur in rural areas (8). Based on this report, with the poor uptake of prevention of mother to child transmission (PMTCT) due largely to low antenatal care coverage (28%) and institutional delivery (6%), especially in rural areas, pediatric HIV/AIDS may be a more significant problem in rural areas than previously thought. The country may be facing a growing pediatric HIV/AIDS epidemic. The report also states that, in 2008, of 3.2 million pregnancies, an estimated 79,183 were HIV-positive mother-exposed infant pairs with a possible estimated transmission to 14,468 infants.

1.2. Statement of the problem

The prevention and control of HIV infection depends on the prevention of new infections and the effective treatment of currently infected individuals (9). Approximately 2.2 million women with HIV infection worldwide give birth each year (10).

An estimated 1.5 million of the 115 million annual births in low and middle-income countries are born to HIV-infected mothers (3). It is estimated that 1,000 children under 15 years become infected with HIV every day; 90% of them through mother-to-child HIV transmission and of that, 2 million children (6% of the 33.4 million people living with HIV) are living with HIV (2). The majority of these children (90%) live in sub-Saharan Africa, the most impacted and underserved region.

In 2009, in Ethiopia, an estimated 72,945 children under age 15 were living with HIV, according to the 2010 UNGASS report (7).

A report from Federal HIV/AIDS Prevention and Control Office 2007 indicates that, the availability of HCT services in Ethiopia has been uneven, and even when available, uptake has been relatively low (11).

To date, only few researches are available in the country regarding the status of willingness of pregnant women towards HIV counseling and testing (12). Since there is a desire to expand PMTCT of HIV down to the grass root level, it is important to assess the magnitude of willingness for HIV counseling and testing of pregnant women attending ANC.

Though HCT service has been given in Asella governmental health institutions like other health institutions do throughout the country, no research is yet done by this topic which indicates to what degree the service is being accepted by pregnant women attending ANC in the areas, and how much they are willing to undergo HCT. This study is primarily aimed to assess willingness of pregnant women attending ANC towards counseling and testing for HIV in Asella hospital and Asella health center. The study will also identify the factors which could hamper the willingness of the women to accept HCT services.

1.3. Significance of the study

This study is designed to assess the magnitude of willingness of pregnant women for HCT services in Asella hospital and Asella health center. Therefore, it will help local and regional health program managers, planners and stakeholders and moreover, health professionals who are working in these health institutions to make appropriate interventions to scale up HCT program and to enable mothers to make all the necessary efforts in the reduction of MTCT of HIV. All the responsible bodies on the area may use the study as a guide to revise, modify or change their policies based on the findings. In addition the result can also be used as a reference for those who are interested to perform further researches on the same topic in the same area and throughout the country.

2. Literature Review

2.1. HIV Counseling and Testing as an Entry Point to PMTCT

Several approaches have been proposed and tested to address the variety of barriers to HIV testing uptake. Knowing one's status is the obligatory first step to receiving HIV care services. Strategies such as universal single-dose nevirapine prophylaxis for all pregnant women in the absence of HIV counseling or testing (once considered by some to enhance the delivery of effective PMTCT interventions in the short term) cannot serve as an entry point for further HIV care, as women who do not know their HIV status cannot access long-term treatment (13). However, proven methods do exist to increase uptake of PMTCT services, including clinic-based health education interventions, group pretest counseling, and education via alternative PMTCT information sources, such as radio and television. The opt-out testing strategy in the context of antenatal care, in which women are tested for HIV after being notified that the test will be performed and the patient may elect to decline or defer testing, has been promoted for several years with significant increases in testing uptake in various resource-limited settings.

2.2. Prevention of Mother To Child Transmission of HIV (PMTCT)

PMTCT is a key component of overall HIV prevention efforts and represents a critical opportunity for stemming the tide of the HIV epidemic. With current interventions, the risk of MTCT can be reduced to less than 5% (3). Therefore, transmission of HIV from a pregnant woman to her infant is preventable.

To successfully reduce mother-to-child transmission of HIV, population-level efforts to prevent HIV infection among women of childbearing age must be realized. For the individual woman, a comprehensive, coordinated continuum of services must be provided beginning with increased access to counseling, testing, and primary prevention services, as well as reproductive health choices enabling either the prevention of unintended pregnancies or appropriate planning for intended future pregnancies for women living with HIV (3). For HIV-positive women who become pregnant, access to and follow through on effective interventions to prevent transmission to the infant and to provide treatment for the woman herself and her child if infected must be provided to maximize maternal health and infant HIV-free survival (3).

Accessibility of ANC and PMTCT services in sub-Saharan Africa varies greatly across and within countries (e.g. urban versus rural areas), depending on economic, geographic, cultural, and social characteristics. A 2003 evaluation of UN-supported pilot PMTCT projects in 9 countries (Botswana, Burundi, Côte d'Ivoire, Kenya, Rwanda, Tanzania, Uganda, Zambia, and Zimbabwe) found that among women who came to health centers for antenatal care, uptake of HIV counseling and testing ranged from 25% to more than 90% (13). However, only 64% to 83% of women who accepted an HIV test returned to collect their results.

In six of the ten countries estimated to have the largest numbers of pregnant women living with HIV (Kenya, Malawi, Mozambique, South Africa, Tanzania and Zambia), rates of counseling and testing for pregnant women have risen to 60–80% (3).

2.3. HCT in Ethiopia

HIV counseling and testing (HCT) is an important entry point for HIV prevention and for early access to treatment, care and support; and is one of the essential components of the national multi-sectoral response against HIV/AIDS, and promoted and broadly available, and easy to get to all individuals and communities (6).

There are three types of HIV testing in Ethiopia: Client-initiated or voluntary counseling and testing (VCT), Provider-initiated counseling and testing (PICT) and Mandatory HIV screening (11). Compared with other approaches, routine provider-initiated HIV counseling and testing using the opt-out approach for all pregnant women has resulted in greater acceptability, increased opportunity to prevent MTCT, and minimized stigma (14).

According to Federal Democratic Republic of Ethiopia: Federal HIV/AIDS Prevention and Control Office March 2010 Report on progress towards implementation of the UN Declaration of Commitment on HIV/AIDS 2010, a total of 1,023 health facilities were providing HCT and PMTCT services at the end of 2009. More than 616,763 pregnant women made at least one antenatal clinic visits during the last fiscal year, and 417,841 underwent HIV testing (6).

This report also indicated that, from July to December 2009 alone, 343,476 pregnant women visited antenatal clinic of which 253,459 (73.7%) underwent HIV testing.

According to the 2008 Health Impact Evaluation report, among all women aged 15-49 that gave birth within the two years preceding the survey, 28.3% received HIV counseling during antenatal care and only 9.2% received test results (6). This report also indicated that, women from rural areas, uneducated, and from the lowest wealth index category were less likely to be counseled and receive test result.

2.4. Willingness of pregnant women for HCT and PMTCT Services and perceived barriers

The potential of PMTCT to serve as the entry point for family-based HIV care can only be realized if there is wide utilization of antenatal care (ANC) services, availability of PMTCT services, and widespread uptake of HCT during pregnancy. In some settings, low uptake of some or all of these services remains a major limitation to scaling up care linkages. For instance, a 2007 report from the World Health Organization (WHO), Joint United Nations Program on HIV/AIDS (UNAIDS), and the United Nations Children's Fund (UNICEF) stated that coverage for HIV counseling and testing remains very low in most countries affected by the epidemic: in more than 70 low and middle-income countries surveyed that reported data for 2005, only 10% of pregnant women received an HIV test (less than 10% in Nigeria, India, Democratic Republic of the Congo; between 40% and 50% in Africa, Latin America, and the Caribbean; and 75% in Eastern Europe and Central Asia) (15).

Willingness is the starting point for the success and impact of any health intervention. A number of studies have used both quantitative and qualitative methods to assess the acceptability of VCT in sub-Saharan Africa. In Uganda, in a qualitative study found that, although almost all the women in their study were willing to take an HIV test and to reveal their HIV status to the maternity staff, they were anxious about the confidentiality of the results of their test (16). They also feared that once the maternity staff knew their serostatus, they might refuse to take care of them.

Factors associated with willingness of HIV counseling and testing among pregnant women attending antenatal clinics include: education level, knowledge of MTCT and HIV testing, and partner participation or perception that the clinic offers privacy and that social support from relatives and peers is available (13).

High uptake of testing can be achieved with routine provider-initiated HIV counseling and testing (PICT) combined with use of rapid tests offering same day results in antenatal and delivery settings. Studies have demonstrated that rapid point-of-care HIV tests have high diagnostic performance (3).

In the industrialized world, a number of European countries have introduced PICT in the context of prenatal care. PICT appears to have resulted in considerable increases in testing uptake in the United States, United Kingdom, Hong Kong, Singapore, Norway, and Canada, where the majority of clients (4/5or more in most studies) agreed or were willing to be tested (17).

In Botswana, a shift from patient-initiated testing to provider-initiated routine testing increased the proportion of antenatal clients who accepted HIV testing from 76% to 95%. In urban Zimbabwe HIV testing rates increased from 65% to 99% when an opt-out provider-initiated testing program was implemented (3). The Elizabeth Glaser Pediatric AIDS Foundation (EGPAF) has provided PMTCT services using opt-out testing to more than 2.6 million women in resource-limited settings. Overall, 92.9% of women who received antenatal care or were seen in labor have been counseled, and 82.8% were found willing to accept the taste (3).

Knowledge of HIV/AIDS and the ways of its transmission, and preventive strategies are important informations for the mother in increasing uptake of PMTCT, and lack of this knowledge can influence for willing to accept HCT. In a study investigated knowledge and awareness of HIV/AIDS among pregnant women in Maharashtra state, India; about 81% of the study subjects heard about the sickness called HIV/AIDS (18). When asked about ways of spread 54% reported they didn’t know, 39% reported that sexual contact, 18% mentioned through injection, and 8% through blood, 4% commercial sex workers and only one person said from mother to child.

On the other hand a study conducted at Cama and Albless hospital, Mumbai, revealed decline in seroprevalence from 5.5% in 1998-99 to 2.2% in 2003-04 among the antenatal care attendees indicating that greater awareness enhanced antenatal detection and measures taken to prevent mother-to-child transmission (19).

The assessment of knowledge of HIV transmission among pregnant women attending antenatal care at different time in Hong Kong, China; indicated that, they have good knowledge of HIV/AIDS (91.6%) with mean score of 4.8 of the possible six, and 62% to 89% knew that using condom reduce the chance of getting the infection (20). However, women were less knowledgeable on MTCT during pregnancy (57%) with mean score of 3.6 of the possible six. Their knowledge was significantly associated with their educational level (21).

A study done on a total of 728 pregnant women attending maternity centers in four primary health facilities in Ilesa East and West local government areas of Osun State Nigeria on HIV Voluntary counseling and Testing of Pregnant women showed that, 587 (80.6%) pregnant women underwent the test after pre-test counseling (22).

A cross sectional study done on 270 randomly selected ANC attendees on Acceptability of Routine Offer of HIV Testing (Opt-Out Approach) among Pregnant Women in the Wa Municipality Ghana showed that, about 60% of the respondents were found willing to accept HCT in the current pregnancy (23).

A health facility based cross sectional survey conducted among 452 pregnant women following antenatal care on Utilization of HCT services among pregnant women in western Amhara region between April and June 2006 showed that, 304 (67.3%) of the respondents were willing to undergo VCT for HIV (24). Of all the socio-demographic variables, education was positively associated with acceptance VCT for HIV (AOR (95% CI) for formal schooling versus no formal schooling = 3.67 (1.56, 8.61) while being a rural women and being a farmer were associated with less likelihood of undergoing HIV counseling and testing [AOR (95% CI) = 0.22 (0.14, 0.35) and 0.44 (0.22, 0.98)] respectively. The main barriers for utilization of HCT services identified were incorrect perceptions regarding HIV/AIDS and stigma by husband, family and community.

Another cross sectional study done on 422 pregnant women in Nekemte hospital and Nekemte health center from May 25, to June 7, 2009 on Acceptability of PICT among pregnant mothers attending ANC showed that, the overall willingness rates of the respondents were 370 (87.7%). Almost all the respondents 412 (97.6%) were knowledgeable to the three cardinal ways of prevention of HIV/AIDS (i.e. Abstinence, avoiding multiple sexual partners and sharing sharps). And 151 (35.8%) of the respondents were knowledgeable to PMTCT during pregnancy, child birth and breast feeding. 310 (73.9%) of the respondents perceived themselves not at risk of contracting HIV/AIDS. 334 (79.1%) of the mothers had information regarding PICT, and health workers were common source of information for 260 (61.6%) of mothers (25).

Stigma is a potential barrier to service uptake and achieving high coverage of HCT as well as other HIV services (3). Fear of stigma and discrimination (enacted stigma) can affect health care seeking behaviors and disclosure of one's HIV status. Lack of knowledge about HIV transmission, prevention and available interventions fuels stigma. In Ethiopia, Kenya, India, and Nigeria, studies have found that fear of their husband's negative reaction, fear of the stigma and discrimination resulting from a positive test result and concern about confidentiality are related to not wanting to get tested by pregnant women (3).

Although the greater involvement of male partners has long been advocated, there are limited data demonstrating the impact of this involvement on HCT uptake (13). One example of where this has been effective is Cambodia, where a study conducted in the context of the country's national PMTCT program showed a strong link between HIV testing acceptance rates among women and attendance at a pretest counseling session with a male partner. However, approaches that actively involve male partners have yet to become common practice in many developing countries. For example, in a PMTCT program conducted in Abidjan, Côte d'Ivoire, the proportion of male partners tested for HIV was only 23.1% among partners of HIV-positive women and 14.8% among partners of HIV-negative women; in a cohort of 799 HIV-positive pregnant women in Bangkok, Thailand, 22.6% still had not disclosed their HIV status to their partners by four months after the initial HIV test (13).

A cross sectional study done on 400 pregnant women on the influence of partners on pregnant women's use of HIV voluntary counseling and testing service in Jijiga zone, Ethiopia indicated that, more than half 249 (62.2%) of the respondents replied that it was important to consult their partner before being tested for HIV. 126 (50.6%) of the pregnant women stated that their partner would approve of their HIV testing. Half of the participant women 202 (51%) were willing to be HIV tested on the same day they were counseled. The remaining women 198 (49%) refused to undergo HIV testing, 78 (39%) reported their uncertainty about their male partner's response to the HIV testing. Other responses for refusal included fear of rejection by the community (28%) and their inability to deal with the stress of being sero-positive (13%). 10% did not know why they do not want to be tested. There was also a concern about confidentiality in 4% (26).

An institutional based cross sectional study conducted on 261 pregnant women, on factors affecting uptake of VCT of HIV among pregnant women attending ANC in Adama hospital, Ethiopia from December 1, 2007 to January 15, 2008 showed that, from the total of 261 pregnant women attended ANC, 211 (80.8%) were showed their willingness for HCT, and 50 (19.2%) rejected to accept the test. Level of education, knowledge of VCT and MTCT of HIV, knowledge of benefits of PMTCT services, marital status, prior HIV testing, numbers of ANC visits, risk perception, access of information towards HIV, all were associated factors identified during the study which had an effect on the uptake of HCT (27).

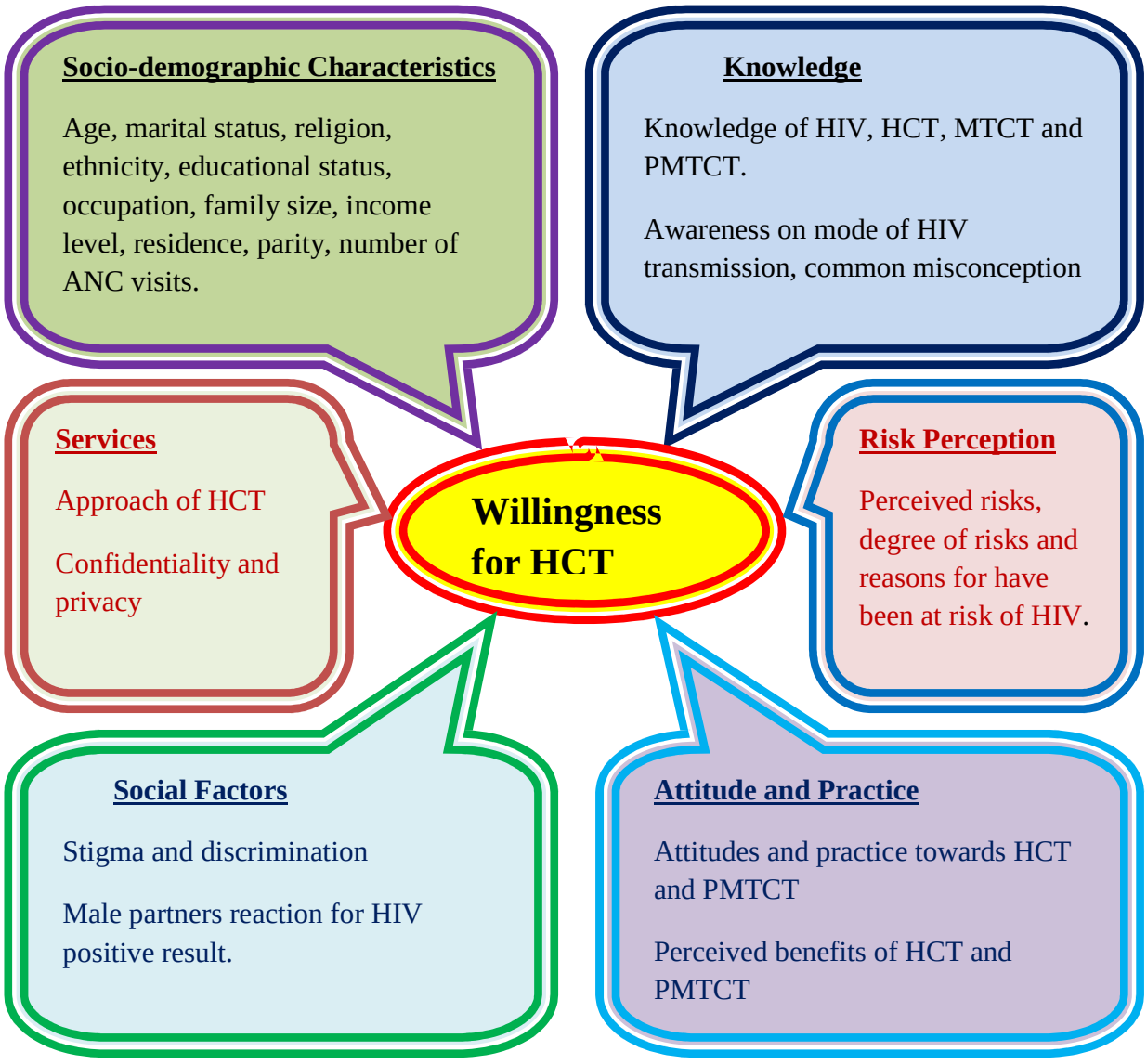
Another cross-sectional institutional based study done on Willingness of pregnant women attending ANC towards VCT on 421 pregnant women in one district hospital, two health centers and three health stations in Wukro and Kleteawlaelo Woredas of Tigray Regional State, north Ethiopia showed that, 74.1% of participants were found willing to accept VCT. On examination of multiple factors to detect whether there is association with willingness to VCT or not: being multigravida (AOR=7.1, 95% CI=1.05,48.3), intention to discuss HIV positive result with partner (AOR=7.01, 95% CI=1.74,28.15), believing partner has a greater role for VCT (AOR=3.84, 95% CI=1.12,13.23) were found to have an association. The level of awareness on VCT and PMTCT was 80.3% and 88.5% respectively (12).

Unmatched case-control study done in a total of 246 pregnant women on Factors determining acceptance of voluntary HIV testing among pregnant women attending antenatal clinic at armed force hospitals in Addis Ababa, Ethiopia showed that, among the studied women 88 were voluntary acceptors of HIV counseling and testing (cases), and 176 were non-acceptors of voluntary HIV testing (controls). The strongest association with acceptance of VCT rested with husbands residence, knowing MTCT as route of HIV transmission and prior HIV testing experience. Women who were living with their husbands were about 5 times more likely to be tested than those whose husband were living away (95% CI=2.15,11.46), and also those who knew MTCT as route of HIV transmission were 7 times more likely to be tested (95% CI = 3.44,15.67). Being tested for HIV in the past also appeared as an independent factor positively influencing acceptances of HIV testing, women who had prior HIV testing were about 2.5 times more likely to be tested than those who had no prior HIV testing (28).

In summary, low level of willingness among pregnant women remains a major rate-limiting step in the uptake of HCT. This, in turn, limits opportunities for referral to other HIV care and treatment in many settings, as highlighted in a recent report by the Global Fund, which states:
PMTCT programs continue to face major implementation challenges, as evidenced by both poor performance and the very modest absolute targets set by grants. These problems are linked to important gender issues in HIV. Women often do not agree to be tested during pregnancy, they tend to be “lost” in the clinical and referral system and they lose access to treatment for themselves and to prevent transmission to their children (13).

3. Conceptual Framework: showing willingness for HCT and other variables

This conceptual framework was developed based on the variables identified in the literature review.



4. Objectives of the study

4.1. General Objective

To assess antenatal care clients' willingness towards counseling and testing for HIV in Asella hospital and Asella health center.

4.2. Specific objectives

1. To measure the proportion of pregnant mothers' willingness to accept HCT services.
2. To assess knowledge of pregnant women towards HCT
3. To assess attitudes of pregnant women attending ANC towards HCT.
4. To assess practices of pregnant women attending ANC towards HCT
5. To identify perceived barriers that affect acceptance of HCT among pregnant women attending ANC

5. Research Methods, Materials and procedures

5.1. Study Area

The study was conducted in Asella hospital and Asella health center found in Oromia region, Arsi zone, Asella town which is 100 and 70 km away from the capital Addis Ababa. The hospital and the health center serve for dwellers of the town and for patients coming from different Woredas and Kebeles surrounding the zone. They have maternal and child health care units which provide antenatal care, delivery service, family planning, HIV counseling and testing service, counseling on infant feeding options and safer sex practices and ART for prevention of MTCT of HIV for pregnant women free of charge. The hospital has teaching institution for doctors, nurses, midwives and pharmacy technologists under Adama University.

5.2. Study Design

An institutional based cross-sectional study was conducted on the pregnant women attended ANC in Asella Hospital and Asella health center.

5.3. Study Period

The study was conducted from September 2011 – May 2012.

5.4. Source Population

All pregnant women attended ANC in Asella hospital and Asella health center.

5.5. Study Population

Pregnant women who came to Asella hospital and Asella health center for ANC during the study period.

5.5.1. Inclusion Criteria

All pregnant women attended ANC in Asella hospital and Asella health center, who were able to communicate, free of mental illness and granted permission to participate in the study.

5.5.2. Exclusion Criteria

Those mentally ill, critically sick, mute, deaf and unconscious pregnant mothers who were unable to communicate and those who were refused to participate in the study and pregnant women who were not registered as ANC follow up clients during the study period were excluded from the study.

5.6. Sampling Technique

Convenient sampling technique was used to collect the information from the eligible ANC attendees who met the inclusion criteria during the study period; until it sufficed the calculated sample size. Because, since it was an exit interview method there was no sampling frame to use other sampling techniques.

5.7. Sample Size

The sample size was determined using the standard formula for single population proportion based on the following assumptions:-

- The population proportion for prevalence of willingness for HCT among pregnant women is 74.1% (Based on the research done in Tigray Regional State on Willingness of pregnant women attending antenatal care towards VCT)
- Confidence interval 95%
- Margin of error tolerable 5%

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

$$n= \frac{(1.96)^2 \times 0.74(1 - 0.74)}{(0.05)^2}$$

n= 292 + 10% non response rate (contingency) 292 + 29 = 321

Where, - Z α/2 = the confidence limits of the survey result (critical value at 95% confidence interval of certainty) = 1.96

- P = the proportion of study population willing to accept HCT = 0.74
- d = margin of error = 0.05
- n = the total sample size

5.8. Data Collection Methods – tools/instruments

Data was collected using a pre-tested, structured, interviewer administered questionnaire that was adopted and modified from different thesis works which were tested before (12,24,25,27). The questionnaire was prepared in a structured way in English and then translated into Amharic and Afaan Oromoo and again back to English by language professionals in each language who had MSc, to see its consistency.

5.8.1. Pre-test:- It was conducted on 10% of the study population who were not included in the main study; pregnant women attended ANC in Asella hospital and Asella health center. During this time data collection tools were tested and evaluated for their appropriateness, reliability and average time needed to administer the questionnaire. Corrections were also made accordingly before the actual data collection time.

5.8.2. Data Collection:- After preparation of the necessary materials and training of data collectors for three days – nurses who were working in other units of the hospital, data was collected over a given period of time. Adequate training was given for data collectors and close supervision was made on them, and also they were instructed not to wear professional uniform during the data collection time to minimize social desirability response. Each woman was interviewed privately in one private class of ANC unit after they finished ANC follow up examination and was assured on the confidentiality of the interview. The follow up charts of interviewed mothers were marked to avoid repetition.

5.9. Description of Study Variables

5.9.1. Dependent Variable:- Willingness for HCT

5.9.2. Independent Variables:- All the socio-demographic characteristics (age, marital status, religion, ethnicity, educational status, occupation, family size, income level, place of residence, parity, number of ANC visits)

- Knowledge of HIV, HCT, MTCT and PMTCT.

  Awareness on mode of HIV transmissions, common misconceptions.
- Risk perceptions of HIV

  Perceived risks, degree and reasons for have been at risk.

- Attitude and practice towards HCT and PMTCT

  Perceived benefits of HCT and PMTCT

- HCT services

  Method or approach of HCT, confidentiality and privacy

- Male partner's reaction to HIV positive result
- Stigma and discrimination

5.10. Data Quality Assurance:- The following measures were taken to maximize the quality of the data: The research advisor was reviewed the contents of the questionnaire, the appropriateness and clarity of questions and the interview schedule before the pilot study was conducted. The questionnaire was also seen and commented by friends and other professionals. Data collectors were provided three days training by principal investigator. Pre-test of data collection instrument was conducted on similar population attended ANC in Asella hospital and Asella health center for clarity, appropriateness and time requirement. Close supervision were made during the data collection period and, questionnaires were checked for completeness and clarity on a daily basis to ensure good quality data. Incorrectly filled or missed ones were sent back to data collectors for correction.

5.11. Operational Definitions

Socio-demographic variables:- refer social and demographic characteristics of clients that were measured by an instrument consisting of 11 items including questions on age, ethnic group, religion, marital status, educational status, occupation, residence, parity, family size, number of ANC visits and family's average monthly income.

Knowledge:- The fact, information, understanding and awareness that the respondents have acquired through experience or education which was measured by an instrument consisting of 7 items including questions on knowledge of HIV, HCT, MTCT, and awareness on mode of transmission and preventive measures, and PMTCT of HIV.

Risk perception:- Respondents feeling of vulnerability for HIV/AIDS which was measured by an instrument consisting of 3 items including questions on feeling at risk of HIV, degree of risk and reasons for have been at risk.

Attitudes and practice:- Predisposition to respond in favour of or against HCT and PMTCT and then the actions that will be taken by the respondents which was measured by using an instrument consisting of 3 items including perceived benefit of HCT and PMTCT, prior HIV test and willingness to accept HCT and PMTCT services.

Social factor:- A social impact that the respondents will face from people and the community in relation with their HIV status which was measured by using an instrument consisting of 4 items including questions on disclosure of HIV test result, fear if HIV test result is positive, and possible reaction of male partner for HIV positive result.

5.12. Data Analysis

The questionnaires were checked for their completeness and the data was given a code and then entered into a computer in Epi-info version 3.5.1 and analysed using SPSS program version 20. Frequency distribution and cross tabulation were made for the variables. Odds ratio and 95% confidence interval were also calculated.

5.13. Ethical Consideration

Ethical clearance was obtained from Department of Nursing and Midwifery Research Ethics Committee, Addis Ababa University. Official letter of cooperation was acquired from the university to Asella hospital and Asella health center, where the study was conducted. Informed consent was obtained from each study participant after clear explanation was given concerning the purpose of the study. All documents were kept private to assure confidentiality of the information. Respondents were not identified by name in the questionnaire and were also not asked about their sero-status. All participants had the right to withdraw from the study at any juncture, if they were not comfortable, and they also had the right to refuse to participate in the study totally.

5.14. Dissemination and utilization of study findings

The results of this study will be submitted to the Department of Nursing and Midwifery, Addis Ababa University, and will primarily be communicated to the respected health authorities, who will utilize the findings, especially Asella hospital and Asella health center. The abstract of the study will be distributed to other health related and development sectors by mail if convenient. The researcher will try to get results published in local and international journals after thesis defense.

6. Result

A total of 321 pregnant women (response rate 100%) attending antenatal care during data collection in Asella hospital and Asella health center were included in the study. The mean age was 26.3 (median 26 years) with a standard deviation of 3.8 years. Among the studied women 291(90.7%) were willing for HCT, and 30 (9.3%) were not willing for HCT. Majority of the respondents, willing 229 (78.7%) as well as unwilling 22 (73.3%) for HCT, were between 20 and 29 years in age. Oromo ethnic group comprised the largest proportion of the study subjects 195 (67.0%) and 22 (73.3%) for willing and unwilling for HCT respectively. The majority 161 (55.3%) of willing and 20 (66.7%) unwilling were Orthodox Christian followers. Almost all the study subjects were married 285 (99.3%) willing and 27 (90.0%) unwilling for HCT, and the majority 281 (96.6%) willing and 24 (80.0%) unwilling for HCT were living with their husbands. Regarding educational background the majority of willing for HCT 114 (39.2%) have attended or attending secondary school education where as the majority of unwilling for HCT 18 (60.0%) were at primary school level. Most of the respondents 227 (78.0%) willing and 28 (93.3%) unwilling were unemployed, and 199 (68.4%) and 18 (60.0%) willing and unwilling for HCT respectively were urban dwellers. Nullipara mothers comprised the largest proportion in both willing 109 (37.5%) and unwilling 22 (73.3%) pregnant women. 130 (44.7%) willing for HCT mothers had 2-3 antenatal care visits where as 23 (76.7%) of unwilling mothers had only 1 antenatal care visit. Table1. shows the socio-demographic characteristics of study participants.

Table 1. Socio-demographic characteristics of willing and unwilling for HCT of ANC attendees in Asella hospital and Asella health center, March – April 2012

Variables	Willing (n=291)		Unwilling (n=30)	
	No	%	No	%
Age				
19 and below	**9**	**3.1**	**6**	**20.0**
20-29 years	**229**	**78.7**	**22**	**73.3**
30-39 years	**53**	**18.2**	**2**	**6.7**
Ethnic group?				
Oromo	**195**	**67.0**	**22**	**73.3**
Amhara	**77**	**26.5**	**8**	**26.7**
Others	**19**	**6.5**	**0**	**0.0**
Religion				
Orthodox	**161**	**55.3**	**20**	**66.7**
Muslim	**100**	**34.4**	**10**	**33.3**
Others	**30**	**10.3**	**0**	**0.0**
Marital status?				
Married	**285**	**97.9**	**27**	**90.0**
Single	**6**	**2.1**	**3**	**10.0**
Do you live with your husband?				
Yes	**281**	**96.6**	**24**	**80.0**
No	**10**	**3.4**	**6**	**20.0**
Educational status?				
Illiterate	**36**	**12.4**	**6**	**20.0**
Primary	**67**	**23.0**	**18**	**60.0**
Secondary	**114**	**39.2**	**4**	**13.3**
Tertiary	**74**	**25.4**	**2**	**6.7**
Occupation?				
Employed	**64**	**22.0**	**2**	**6.7**
Unemployed	**227**	**78.0**	**28**	**93.3**

Your place of residence?				
Urban	**199**	**68.4**	**18**	**60.0**
Rural	**92**	**31.6**	**12**	**40.0**
Parity?				
Primipara	**101**	**34.7**	**4**	**13.3**
Multipara	**81**	**27.8**	**4**	**13.3**
Nullipara	**109**	**37.5**	**22**	**73.3**
Number of ANC visits?				
Only 1	**85**	**29.2**	**23**	**76.7**
2 – 3	**130**	**44.7**	**5**	**16.7**
4 and above	**76**	**26.1**	**2**	**6.7**

The entire respondents knew that, sexual contact is the major mode of transmission of HIV. The study participants responded that, faithfulness, condom use and abstinence are preventive measures of HIV, 288 (99.0%) willing and 30 (100%) unwilling, 255 (77.3%) willing and 19 (63.3%) unwilling, and 217 (74.6%) willing and 18 (60.0%) unwilling for HCT respectively. About the time when MTCT of HIV could occur, the majority 287 (98.6%) willing and 29 (96.7%) unwilling pregnant mothers responded that, during pregnancy is the time when transmission of the virus to the child occurs. All of the respondents reported that, use of antiretroviral drugs is the major method of prevention of MICT of HIV. (Table 2)

Table 2. Knowledge of pregnant women attending ANC in Asella hospital and Asella health center on HIV, HCT, MTCT and PMTCT, March – April 2012

Variables		Willing (n=291)		Unwilling (n=30)	
		No	%	No	%
Mode of transmission?					
Sexual contact	Yes	**291**	**100.0**	**30**	**100.0**
	No	**0**	**0.0**	**0**	**0.0**
Blood & blood product	Yes	**220**	**75.6**	**15**	**50.0**
	No	**71**	**24.4**	**15**	**50.0**
Contaminated sharps	Yes	**279**	**95.9**	**28**	**93.3**
	No	**12**	**4.1**	**2**	**6.7**
What are the preventive measures?					
Abstinence	Yes	**217**	**74.6**	**18**	**60.0**
	No	**74**	**25.4**	**12**	**40.0**
Faithfulness	Yes	**288**	**99.0**	**30**	**100.0**
	No	**3**	**1.0**	**0**	**0.0**
Using condom	Yes	**225**	**77.3**	**19**	**63.3**
	No	**66**	**22.7**	**11**	**36.7**
When does MTCT of HIV occurs?					
During pregnancy	Yes	**287**	**98.6**	**29**	**96.7**
	No	**4**	**1.4**	**1**	**3.3**
During delivery	Yes	**177**	**60.8**	**11**	**36.7**
	No	**114**	**39.2**	**19**	**63.3**
During breast feeding	Yes	**114**	**39.2**	**2**	**6.7**
	No	**177**	**60.8**	**28**	**93.3**
How MTCT is prevented?					
Use of ART	Yes	**291**	**100.0**	**30**	**100.0**
	No	**0**	**0.0**	**0**	**0.0**
Avoiding breast feeding	Yes	**115**	**39.5**	**2**	**6.7**
	No	**176**	**60.5**	**28**	**93.3**

Only 24 (8.2%) willing and most 26 (86.7%) unwilling pregnant mothers perceived that they were at risk of acquiring HIV/ADIS. Concerning the reasons why they had been at risk, both willing and unwilling pregnant women for HCT 12 (4.1%) and 22 (73.3%) respectively mentioned that, their partners were not faithful. (Table 3).

Table 3. Risk perception of pregnant women attending ANC in Asella hospital and Asella health center for HIV, March – April 2012

Variables		Willing (n=291)		Unwilling (n=30)	
		No	**%**	**No**	**%**
Feel at risk of HIV?					
Yes		**24**	**8.2**	**26**	**86.7**
No		**267**	**91.8**	**4**	**13.3**
Reasons of feeling at risk?					
Multiple sexual partner	Yes	**10**	**3.4**	**14**	**46.7**
	No	**281**	**96.6**	**16**	**53.3**
Partner is not faithful	Yes	**12**	**4.1**	**22**	**73.3**
	No	**279**	**95.9**	**8**	**26.7**

Table 4 shows attitudes and practices of pregnant women towards HCT and PMTCT. Most of the willing respondents 247 (84.9%) reported that, they had prior HIV test. None of unwilling pregnant women on the other hand had prior HIV tests. 291 (90.7%) of the study participants accepted HCT and PMTCT.

Table 4. Attitudes and practices of pregnant women attending ANC in Asella hospital and Asella health center towards HCT and PMTCT, March – April, 2012

Variables	**Willing (n=291)**		**Unwilling (n=30)**	
	No	**%**	**No**	**%**
Have you tested for HIV before?				
Yes	**247**	**84.9**	**0**	**0.0**
No	**44**	**15.1**	**30**	**100.0**
Willingness for HCT				
Yes	**291**	**90.7**		
No	**0**	**0.0**	**30**	**9.3**

In table 5, which shows social factors that influence willingness of pregnant women for HCT, 181 (62.2%) of willing women would fear nothing if their HIV test result would be positive, whereas the majority 14 (46.7%) of unwilling women would fear about their own and baby's health if they were HIV positive. 283 (97.3%) willing as well as majority of unwilling respondents 24 (80.0%) reported that they would disclose their HIV test results for their husbands or partners.

Table 5. Social factors that influence willingness of pregnant women attending ANC in Asella hospital and Asella health center for HCT, March - April, 2012

Variables		Willing (n=291)		Unwilling (n=30)	
		No	%	No	%
Fear if HIV test result is positive?					
Own & baby's health	Yes	**81**	**27.8**	**14**	**46.7**
	No	**210**	**72.2**	**16**	**53.3**
Stigma, discrimination	Yes	**55**	**18.9**	**9**	**30.0**
	No	**236**	**81.1**	**21**	**70.0**
I don't fear	Yes	**181**	**62.2**	**13**	**43.3**
	No	**110**	**37.8**	**17**	**56.7**
Do you tell HIV +ve result to husband?					
Yes		**283**	**97.3**	**24**	**80.0**
No		**8**	**2.7**	**6**	**20.0**
If you don't, your reasons?					
Breaking of marriage	Yes	**4**	**1.4**	**0**	**0.0**
	No	**4**	**1.4**	**6**	**20.0**
Psychological harassment.	Yes	**8**	**2.7**	**6**	**20.0**
	No	**0**	**0.0**	**0**	**0.0**
Physical violence	Yes	**5**	**1.7**	**0**	**0.0**
	No	**3**	**1.0**	**6**	**20.0**

Concerning HCT services which influence willingness of pregnant women for HCT, as shown in Table 6, the majority of the willing respondents 192 (66.0%) preferred the approach of HCT services should be routinely provider initiated for all, but all of unwilling for HCT respondents preferred that, the test should be voluntarily, when the mother needs to be tested.

Table 6. HCT services that influence willingness of pregnant women attending ANC in Asella hospital and Asella health center for HCT, March - April, 2012

Variables	**Willing (n=291)**		**Unwilling (n=30)**	
	No	**%**	**No**	**%**
Preferable approach of HCT				
VCT	**99**	**34.0**	**30**	**100.0**
PICT	**192**	**66.0**	**0**	**0.0**

Table 7 shows socio-demographic factors associated with willingness for HCT. Willingness for HCT was significantly higher in the ages 20 and above years, and these age groups were 7 times (OR=6.94, 95% CI=2.26,21.31) more likely willing for HCT when compared with younger ages, 19 years and below. Married women were 5 times more likely willing for HCT when compared with those who were not married (OR=5.28, 95% CI=1.25, 22.30). Similarly, among married women those who were living with their husbands were more likely willing for HCT when compared with those who were not living with their husbands or partners (OR=7.03, 95% CI=2.35, 21.00).

As shown in the table, the odds of willing for HCT significantly increased with an educational level. Women with secondary and above education were 4 times more likely willing for HCT than those who were illiterate and with primary education (OR=4.75, 95% CI=1.27,17.80).The odds of willing for HCT were also higher in women who gave birth before. Primipara women were 5 times more likely willing for HCT (OR=5.10, 95% CI=1.70,15.30) than those who were nullipara. Similarly, women who had 2 and above ANC visits were 7 times more likely willing for HCT (OR=7.04, 95% CI=2.60,19.22) than those who had only 1 ANC visit.

Table 7. Socio-demographic factors associated with willingness for HCT of ANC attendees in Asella hospital and Asella health center, March – April 2012

Variables	Willing (n=291)		Unwilling (n=30)		Crude OR	95% CI
	No	%	No	%		
Age						
19 and below	**9**	**3.1**	**6**	**20.0**	**1**	
20-29 years	**229**	**78.7**	**22**	**73.3**	**6.94**	**2.26,21.31**
30-39 years	**53**	**18.2**	**2**	**6.7**	**17.67**	**3.10,101.60**
Marital status?						
Married	**285**	**97.9**	**27**	**90.0**	**5.28**	**1.25,22.30**
Single	**6**	**2.1**	**3**	**10.0**	**1**	
Living with your husband?						
Yes	**281**	**96.6**	**24**	**80.0**	**7.03**	**2.35,21.00**
No	**10**	**3.4**	**6**	**20.0**	**1**	
Educational status?						
Illiterate	**36**	**12.4**	**6**	**20.0**	**1**	
Primary	**67**	**23.0**	**18**	**60.0**	**6.20**	**0.23,1.70**
Secondary	**114**	**39.2**	**4**	**13.3**	**4.75**	**1.27,17.80**
Tertiary	**74**	**25.4**	**2**	**6.7**	**6.17**	**1.19,32.10**
Parity?						
Primipara	**101**	**34.7**	**4**	**13.3**	**5.10**	**1.70,15.30**
Multipara	**81**	**27.8**	**4**	**13.3**	**4.10**	**1.40,12.32**
Nullipara	**109**	**37.5**	**22**	**73.3**	**1**	
Number of ANC visits?						
Only 1	**85**	**29.2**	**23**	**76.7**	**1**	
2 – 3	**130**	**44.7**	**5**	**16.7**	**7.04**	**2.60,19.22**
4 and above	**76**	**26.1**	**2**	**6.7**	**10.30**	**2.35,45.10**

Study participants were also assessed about their knowledge on route of HIV transmission, when mother to child transmission could occur, and about attributes in the prevention of mother to child transmission of HIV infection. Both groups mentioned means of transmission of HIV like sexual intercourse, blood and blood products, contaminated sharp instruments and mother to child transmission (MTCT), and women who indicated blood and blood product as a mode of transmission were 3 times more likely willing for HCT (OR=3.10, 95% CI=1.44,6.70) than those who didn't mention it as a mode of HIV transmission.

Mothers who said MTCT could occur during delivery were about 2.7 times more likely willing for HCT (OR=2.68, 95% CI =1.23,5.84), and those who said during breast feeding were 9 times more likely willing for HCT (OR=9.02, 95% CI=2.11,38.58) than those who didn't mention both occasions as times of MTCT of HIV. Pregnant women who reported avoidance of breast feeding as a means of intervention to reduce MTCT of HIV were 9 times more likely willing for HCT than those who didn't mention it as a means of intervention (OR=9.15, 95% CI=2.14,39.14).

Table 8. Knowledge factors associated with HCT of willing and unwilling pregnant women attending ANC in Asella hospital and Asella health center March – April 2012

Variables		Willing (n=291)		Unwilling (n=30)		COR	95% CI
		No	%	No	%		
Mode of transmission of HIV?							
Sexual contact	Yes	**291**	**100.0**	**30**	**100.0**		
	No	**0**	**0.0**	**0**	**0.0**		
Blood & blood product	Yes	**220**	**75.6**	**15**	**50.0**	**3.10**	**1.44,6.70**
	No	**71**	**24.4**	**15**	**50.0**	**1**	
Contaminated sharps	Yes	**279**	**95.9**	**28**	**93.3**	**1.70**	**0.35,7.80**
	No	**12**	**4.1**	**2**	**6.7**	**1**	
Preventive measures from HIV?							
Abstinence	Yes	**217**	**74.6**	**18**	**60.0**	**1.96**	**0.90,4.25**
	No	**74**	**25.4**	**12**	**40.0**	**1**	
Faithfulness	Yes	**288**	**99.0**	**30**	**100.0**		
	No	**3**	**1.0**	**0**	**0.0**		
Using condom	Yes	**225**	**77.3**	**19**	**63.3**	**1.97**	**0.89,4.36**
	No	**66**	**22.7**	**11**	**36.7**	**1**	
When does MTCT of HIV occurs?							
During pregnancy	Yes	**287**	**98.6**	**29**	**96.7**	**2.47**	**0.27,22.88**
	No	**4**	**1.4**	**1**	**3.3**	**1**	
During delivery	Yes	**177**	**60.8**	**11**	**36.7**	**2.68**	**1.23,5.84**
	No	**114**	**39.2**	**19**	**63.3**	**1**	
During breast feeding	Yes	**114**	**39.2**	**2**	**6.7**	**9.02**	**2.11,38.58**
	No	**177**	**60.8**	**28**	**93.3**	**1**	
How MTCT will be prevented?							
Use of ART	Yes	**291**	**100.0**	**30**	**100.0**		
	No	**0**	**0.0**	**0**	**0.0**		
Avoiding breast feeding	Yes	**115**	**39.5**	**2**	**6.7**	**9.15**	**2.14,39.14**
	No	**176**	**60.5**	**28**	**93.3**	**1**	

Concerning risk perception of pregnant women attending ANC in relation with HIV/ADIS, table 9 shows that, women who didn't perceive themselves at risk of acquiring HIV were more likely willing for HCT than those who perceived they were at risk (OR=72.31, 95% CI=23.30,224.42). Similarly, women who hadn't have multiple sexual partners were more likely willing for HCT than those who had (OR=24.59, 95% CI=9.46, 63.90), and women whose partners were faithful were also more likely willing for HCT than women whose partners were not faithful (OR=63.94, 95% CI=23.66,172.82).

Table 9. Risk perception factors associated with HCT of willing and unwilling pregnant women attending ANC in Asella hospital and Asella health center, March – April 2012

Variables		**Willing (n=291)**		**Unwilling (n=30)**		**COR**	**95% CI**
		No	**%**	**No**	**%**		
Feel at risk of HIV?							
Yes		**24**	**8.2**	**26**	**86.7**	**1**	
No		**267**	**91.8**	**4**	**13.3**	**72.31**	**23.30,224.42**
Reasons of feeling at risk?							
Multiple sexual partner	Yes	**10**	**3.4**	**14**	**46.7**	**1**	
	No	**281**	**96.6**	**16**	**53.3**	**24.59**	**9.46,63.90**
Partner is not faithful	Yes	**12**	**4.1**	**22**	**73.3**	**1**	
	No	**279**	**95.9**	**8**	**26.7**	**63.94**	**23.66,172.82**

As shown in table 10, women were assessed for social factors affecting their willingness for HCT. Women who would fear nothing if there HIV test result would be positive were 2 times more likely willing for HCT than their counterparts (OR=2.15, 95% CI=1.01,4.60). Women who would not fear stigma and discrimination were 1.8 times more likely willing for HCT than those who would fear (OR=1.84, 95% CI=0.80,4.24). Also women who would not fear concerning their own and baby's health if their HIV tests result would be positive were 2 times more likely willing for HCT than their counterparts.

On the other hand, women who were willing to disclose their HIV test result for their husbands if they were positive were 8.8 times more likely willing for HCT than those who were not will to disclose (OR=8.84, 95% CI=2.84,27.59).

Table 10. Social factors associated with HCT of willing and unwilling pregnant women attending ANC in Asella hospital and Asella health center, March - April, 2012

Variables		Willing (n=291)		Unwilling (n=30)		COR	95% CI
		No	%	No	%		
Fear if HIV test result is positive?							
Own & baby's health	Yes	**81**	**27.8**	**14**	**46.7**	**1**	
	No	**210**	**72.2**	**16**	**53.3**	**2.27**	**1.06,4.86**
Stigma, discrimination	Yes	**55**	**18.9**	**9**	**30.0**	**1**	
	No	**236**	**81.1**	**21**	**70.0**	**1.84**	**0.80,4.24**
I don't fear	Yes	**181**	**62.2**	**13**	**43.3**	**2.15**	**1.01,4.60**
	No	**110**	**37.8**	**17**	**56.7**	**1**	
Do you tell +ve result to husband?							
Yes		**283**	**97.3**	**24**	**80.0**	**8.84**	**2.84,27.59**
No		**8**	**2.7**	**6**	**20.0**	**1**	

Variables like age, marital status, educational status, number of birth, ANC visits and perceived risk of HIV were entered for multivariate analysis. The strongest association with willingness for HCT rested with parity, number of ANC visits and perceived risk of HIV. Primipara women were about 12 times more likely willing for HCT than nullipara mothers (AOR=12.33, 95% CI=1.25,121.57), and also those who had 2 and above ANC visits were 9.6 times more likely willing for HCT than those who had only 1 ANC visit (AOR=9.64, 95% CI=1.93,48.28). Women who were perceived themselves not at risk of acquiring HIV were more likely willing for HCT than their counterparts (AOR=0.08, 95% CI=0.01,0.41).

Table 11. Adjusted determinant factors of willing and unwilling pregnant women for HCT attending ANC in Asella hospital and Asella health center, March - April, 2012

Variables	**Willing (n=291)**		**Unwilling (n=30)**		**AOR**	**95% CI**
	No	**%**	**No**	**%**		
Parity?						
Primipara	**101**	**34.7**	**4**	**13.3**	**12.33**	**1.25,121.57**
Nullipara	**109**	**37.5**	**22**	**73.3**	**1**	
Number of ANC visits?						
Only 1	**85**	**29.2**	**23**	**76.7**	**1**	
2-3	**130**	**44.7**	**5**	**16.7**	**9.64**	**1.93,48.28**
Feel at risk of HIV?						
Yes	**24**	**8.2**	**26**	**86.7**	**1**	
No	**267**	**91.8**	**4**	**13.3**	**0.08**	**0.01,0.41**

7. Discussion

Worldwide, more than 90% of pediatric HIV infection is acquired from their mother. It has been well established that mother to child transmission (MTCT) accounts for the majority of HIV infections in children below the age of 15 years in developing countries (1). HIV counseling and testing (HCT) is an important entry point for HIV prevention and for early access to treatment, care and support (1). Willingness for accepting HCT is the key component and a starting point of overall HIV prevention efforts and represents a critical opportunity for stemming the tide of the HIV epidemic. Nowadays antiretroviral drugs for prevention of mother to child transmission (MTCT) of HIV infection become available in developing countries, and for a pregnant mother to benefit from this intervention, she needs to know her serostatus (28).

The purpose of this study was to measure the proportion of willingness for HCT, assess knowledge, attitudes and practices, and identify perceived barriers that affect acceptance of HCT among pregnant women attending ANC in Asella hospital and Asella health center.

In this study, among the sociodemographic variables, age had significant association with acceptance of HCT. Willingness for HCT was significantly higher in the ages 20 and above years and these age groups were 7 times (OR=6.94, 95% CI=2.26,21.31) more likely willing for HCT when compared with younger ages, 19 years and below, and this showed that, willingness increases as the age increasesd. This study is consistent with a study done in Rwanda Kigali, which showed, the older the mother the more likely it was that offered HIV testing would be accepted (AOR=3.1, 95% CI=1.01,9.4) (29). Similar studies done in Addis Ababa and Nekemte showed that, willingness for HCT was slightly increased as the age increases but it was not statistically significant (25, 28). This association may be due to the fact that, as the age increases responsibility to the family and the value for life may increases.

The study also showed that, married women were 5 times more likely willing for HCT than their counterparts (OR=5.28, 95% CI=1.25, 22.30). This finding is consistent with the finding in Addis Ababa that, married women were more likely willing to be tested than unmarried women (OR=5.83, P= <0.01) (28). A study done in Adama also agreed with this finding; married women are 4 times more likely willing to be tested than unmarried (OR=4.00, 95% CI=2.44,6.75) (27).

On the other hand, this finding is not supported by findings of other studies. A study from Tanzania showed that, women cohabitating while unmarried were significantly more likely willing to be tested than married mothers (P=0.03) (28). Another study conducted in Barbados that assessed association of marital status and acceptance of testing showed that, single women were less likely to refuse HIV testing than married women, but the association was not statistically significant (28). The association of marriage and acceptance of HIV testing in this study may be due to the fact that, married women might be more confident that they are at less risk compared to unmarried because of their committed marriage.

This study also revealed that, among married women, those who were living with their husbands were more likely willing for HCT when compared with those who were not living with their husbands or partners because of various reasons (OR=7.03, 95% CI=2.35, 21.00). This finding is consistent with other findings. Study conducted in Addis Ababa showed that, partners live at home were significantly and independently associated with VCT acceptance of the women (AOR=4.97, 95% CI=2.15,11.46) (28). Similarly, the study done in Adama also revealed that, women who were living with their husbands were significantly willing to be tested than their counterparts (OR=3.8, P=0.000) (27). The possible explanation for association between husbands living at home and acceptance of prenatal HIV testing may be due to the reasons that, women who are living with their husbands might be more confident about their husbands condition concerning faithfulness, and also more likely prone to discuss the issue of HCT with their husbands and may also decide better to be tested for HIV.

The finding of our study showed that, willingness for HCT significantly increased with an educational level. Women with secondary and above education were 4 times more likely willing for HCT than those who were illiterate and with primary education (OR=4.75, 95% CI=1.27,17.80). The result of this study is consistent with the findings from other studies. A study from Hong Kong reported that, level of education was significantly associated with the acceptance of HIV testing (28). A study done in Addis Ababa showed that, Women with secondary and above education were 3 times more likely to accept VCT than those who were illiterate and with primary education (28).

Another study done in Adama also showed that, level of education is significantly associated with the uptake of HIV counseling and testing (P=0.000) (27). On the other hand, in one study done among pregnant women in Dar-es-salaam, Tanzania, higher level of education of the mother was associated with decreased acceptance of testing (28). The association of acceptance of testing and education may be explained by the fact that, educated mothers are better in assessing the advantage of testing, and might be aware of the benefits of the test and treatment options that reduce mother to child transmission of HIV infection.

This study revealed a strong association that, women who had 2 and more ANC visits were 9.6 times more likely willing for HCT than those who had only 1 ANC visit (AOR=9.64, 95% CI=1.93,48.28). The finding of this study is consistent with other studies. A study conducted in Addis Ababa showed that, mothers who had 2 or more antenatal care visits were more likely to be tested than those who had less visits (P=0.01) (28).

Another similar study done in Adama also revealed that, there were strong association between the number of antenatal care visits and uptake of HIV testing (OR=2.07, 95% CI=1.06,4.03) (27). The association between number of antenatal visit and acceptance of prenatal HIV testing may be explained by the fact that, frequent exposure of mothers to information regarding HIV, MTCT and PMTCT during their follow up, may influence the mother to accept the test.

In our study, knowledge of MTCT as a route of HIV transmission during pregnancy, and avoidance of breast-feeding as a means to reduce mother-to-child transmission of the virus were found significantly associated with the acceptance of HCT. Pregnant women who reported avoidance of breast feeding as a means of intervention to reduce MTCT of HIV were 9 times more likely willing for HCT than those who didn't mention it as a means of intervention (OR=9.15, 95% CI=2.14,39.14). This finding is supported by a study done in Addis Ababa which showed pregnant women with knowledge of MTCT as rout of HIV transmission and avoidance of breast feeding as a means to reduce MTCT of the virus were more likely willing to accept HCT (OR=7.34, 95% CI=3.44,15.67). Similar findings were also reported by a study from South Africa (28).

The association of knowledge of MTCT and acceptance of HCT might be due to the fact that, as knowledge regarding MTCT of HIV increased acceptance for HCT may increases to benefit from intervention measures of PMTCT of HIV.

Our study showed that, risk perception of the mother regarding HIV was strongly associated with willingness for HCT. Women who were perceived themselves not at risk of acquiring HIV were more likely willing for HCT than their counterparts (AOR=0.08, 95% CI=0.01,0.41). Similar finding were reported from studies conducted in Dire Dawa among pregnant women (28). A community based studies conducted in Assossa on acceptability of voluntary counseling and testing and in other studies conducted in three sites (Addis Ababa, Arsi, and Debre Berhan) on perception of risk and vulnerability to HIV/AIDS reported similar findings (28). According to health believe model, when people perceived that they are at risk of acquiring disease or illness, they are more prone to seek medical attention. But the finding obtained in this study was different. Most pregnant women who perceived that they were at risk of acquiring HIV/ADIS were less likely willing for HCT, this might be because of fear of HIV positive result since HIV/ADIS is not yet curable. On the other hand, women who felt that they hadn't been at risk, they were confident enough to be tested without fear.

This study also revealed that, parity was strongly associated with willingness for HCT. Primipara women were about 12 times more likely willing for HCT than nullipara mothers (AOR=12.33, 95% CI=1.25,121.57). This finding is consistent with a finding in Ghana (23). The association of parity with willingness for HCT might be due to the fact that, as parity increased the responsibility to the family may also increases.

8. Strengths and Limitations of the study

8.1. Strengths

- Intensive training and a day to day close supervision of data collectors were performed.
- Data collection was carried out by same sex (Female Nurses) who were not counselors in both the hospital and the health center and who were not working in the MCH to avoid social desirability response.
- The HIV status of the mothers was not asked to avoid breach of information.
- Data completeness was assessed daily to avoid missing of questions.
- Questionnaires were translated into different local languages (Amharic and Afann oromoo)

8.2. Limitations

- As in other behavioral surveys, respondents might not replied openly to sensitive and private questions.
- Since the study was institutional based, the findings might not represent the knowledge of all pregnant women found in the community.
- Like any other cross-sectional study, it fails to show causal relationship.

9. Conclusion and Recommendation

9.1. Conclusion

Our study which was conducted among pregnant women attended antenatal care in Asella hospital and Asella health center to assess ANC clients' willingness for HCT has reached on the following conclusions.

- Women who aged 20 and above are more likely willing for HCT than those who are less than 20 (as the age increases willingness for HCT also increases)
- Pregnant mothers who are married and living with their husbands or partners are more likely willing for HCT.
- Women who are at secondary and above educational level are more likely willing for HCT, than those who are illiterate or with primary education.
- Pregnant women who had 2 and more ANC visits are more likely willing for HCT than women with only 1 ANC visit.
- Pregnant women who gave birth before are more likely willing for HCT than those who are nullipara.
- Pregnant women who know MTCT as route of HIV transmission, and those who mention avoidance of breast feeding as a means of PMTCT are more likely willing for HCT.
- Pregnant women who know existence of intervention that reduce MTCT and acknowledge benefits of HCT are more likely willing for HCT.
- Pregnant women who perceive that they are at risk of acquiring HIV are less likely willing for HCT than those who think they are not at risk.
- Pregnant women who had multiple sexual partners or who feel that their partners are not faithful are less likely willing for HCT.
- Pregnant mothers who had prior HIV test are more likely willing for HCT than those who hadn't tested before.

9.2. Recommendation

- Based on the findings of this study we recommend on the need for intensive and continued education to both pregnant mothers and their partners about prenatal HIV transmission, the role of HIV counseling and testing (HCT) on the prevention of mother-to-child transmission of the virus, and about the existence of intervention that reduce the possibility of prenatal transmission of the virus to scale up HCT acceptance of the mother.
- Various means of information transmission resources should be used about HCT and PMTCT of HIV to reach all the target population.
- We also strongly recommend that, special attention must be given on counseling of pregnant women who are not will for HCT because of fear of HIV positive result.
- Increasing women education to the highest possible level.

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11. Annexes

Annex 1:- Definitions of terms used in the study

Willingness for HCT:- is when a woman expresses her verbal agreement to use HCT

Provider-initiated counseling and testing (PICT):- refers to HIV testing and counseling which is recommended by health care provider to pregnant mother attending health care facilities as a standard component of medical care.

Client-initiated HIV counseling and testing (Voluntary counseling and testing) or (VCT):- involves pregnant mothers actively seeking HIV counseling and testing at a facility that offers these services.

Antenatal attendees:- are pregnant mothers who made one or more visits to health institutions for early detection and control of any health problem related to pregnancy.

"Opt-in":- is when pregnant mothers affirmatively agree to the test being performed after pretest information has been received.

"Opt-out":- is when pregnant mothers specifically decline the HIV test after receiving pretest information if they do not want the test to be performed.

Verbal informed Consent:- is agreement which is confirmed verbally by pregnant mothers after being informed by provider.

HCT uptake:- refers to proportion of pregnant women tested after getting HIV counseling and testing service.

Version No 2, 20/06/12

Annex 2. Information sheet and consent form (English version)

Information sheet

My name is_____, I am working as a data collector for a study being conducted by MSc candidate Tadesse Fikre from Addis Ababa University school of Medicine College of Health Science Department of nursing and midwifery entitled "Assessment of ANC clients' willingness for HIV counseling and testing in Asella Governmental Health Institutions". The objective of the study is to assess willingness of pregnant women attending ANC in Asella hospital and Asella health center for HIV counseling and testing. In addition the study will identify factors influencing acceptance of HIV counseling and testing.

You are invited to participate in this research study, and during the interview you will be asked some short questions about your background, about HIVAIDS and your feeling towards counseling and testing for HIV etc. Your participation in the study is upon purely voluntary basis. The result of this study will be used to generate information necessary for the planning, improving, redesigning and scaling up strategies in increasing willingness of pregnant women on acceptance of HCT.

All the information you give will be kept completely confidential, your name will not be asked and be written on the form and will never be used in connection with any of the information you will provide. The interview will be conducted in private and will take 10-15 minutes. You have a right to refuse to participate in the study, to interrupt the interview at any time and not to answer any question that you don't want to answer. Your refusal does not affect the service delivery that you deserve. However, your honest answers to these questions will help us to assess the willingness of pregnant women in Asella hospital and Asella health center for HCT, and to identify factors affecting the acceptance. We would like to thank you in advance for your cooperation. Are you willing to participate in the study?

If yes_____ continue, if no_____ stop.

Interviewer's name_____ Signature_____

Date of interview_____

Supervisor's name_____Date_____ Signature_____

Version No 2, 20/06/12

Verbal consent form

I have agreed to participate in this study after I had been informed about the objectives of the study, its benefit on measuring the proportion of willingness in accepting HIV counseling and testing among pregnant women, and after I had understood that the study will not cause any physical or psychological trauma on me. The consent is with all my full permission, without being forced to participate by any person.

Thank you!!!

Annex 3. Information sheet and consent form (Amharic Version)

የመረጃ ወረቀት

እኔ _____የተባልኩ “በአሰላ ከተማ የመንግስት ጤና ተቋማት የቅድመ ወሊድ የጤና ክትትል ደንበኛ የሆኑ እናቶች ስለ ኤች አይ ቪ ምክርና ምርመራ ያላቸዉ ፍቃደኝነት የዳሰሳ ጥናት” በሚል ርዕሥ በአዲስ አበባ ዩኒቨርስቲ የሕክምና ትምህርት ቤት የጤና ሳይንስ ኮሌጅ የነርስና የአዋላጅ ነርሶች ትምህርት ክፍል ተማሪ የሆነዉ አቶ ታደሰ ፍቅሬ ለሚያካሂደዉ የዳሰሳ ጥናት መረጃ ሰብሳቢ ስሆን የጥናቱም አላማ በአሰላ ሆስፒታልና በአሰላ ጤና ጣቢያ የቅድመ ወሊድ የጤና ምርመራ ክትትል የሚያደርጉ ነፍሰ ጡር እናቶች ስለ ኤች አይ ቪ ምክርና ምርመራ ያላቸዉን ፈቃደኝነት ለማወቅ የሚደረግ የዳሰሳ ጥናት ነዉ። በተጨማሪም ጥናቱ በኤች አይ ቪ ምክርና ምርመራ ተቀባይነት ላይ ተፅዕኖ የሚፈጥሩ ምክንያቶችን ለይቶ ያስቀምጣል።

እርስዎም በጥናቱ እንዲሳተፉ የተጋበዙ ሲሆን በቃለ መጠይቁ ወቅት አንድ አንድ አጠር ያሉ በሕይወትዎ ዙሪያ፣ ስለ ኤች አይ ቪና እንዲሁም ስለ ኤች እይ ቪ ምክርና ምርመራ ያለዎትን ስሜትና ሌሎችንም ጥያቄዎች ይጠየቃሉ። ተሳትፎዎ ሙሉ በሙሉ በፈቃደኝነት ላይ የተመሰረተ ሲሆን የጥናቱም ዉጤት ነፍሰ ጡር እናቶች በኤች አይ ቪ ምክርና ምርመራ ተቀባይነት ላይ ያላቸዉን ፈቃደኝነት ለማሳደግ በሚቀየሱ ስልቶች፣ ዕቅዶችና ማሻሻያዎች ላይ መረጃዎችን ለማፍለቅ ይጠቅማል።

ሁሉም የሚሰጡት መረጃ ሙሉ በሙሉ በምስጢር የሚያዝ ሲሆን፤ ስምዎ አይጠቀስም፣ በቅፁ ላይ አይፃፍም እንዲሁም ከሚሰጡት መረጃ ጋር በፍፁም ተያያዥነት አይኖረዉም። ቃለ መጠይቁ ግላዊ ወይም ምስጢራዊ በሆነ መልኩ የሚጠየቅ ሲሆን ከአስር እስከ አስራ አምስት ደቂቃ ይወስዳል።

በጥናቱ ያለመሳተፍ ፣ በማንኛዉም ሰዓት የማቋረጥና መመለስ የማይፈልጉትን ጥያቄ ያለመመለስ መብት ያለዎት ሲሆን አለመሳተፍዎ በሚያገኙት ግልጋሎት ላይ ምንም አይነት ተፅዕኖ አይኖረዉም፤ ነገር ግን በታማኝነት ላይ የተመሰረተ መልስዎ ለጥናታችን ከፍተኛ አስተዋፅኦ ስለሚኖረዉ በቅድሚያ ስለትብብርዎ እያመሰገንን በጥናቱ ላይ ለመሳተፍ ፈቃደኛ ነዎትን?

አዎ_____ቀጥል

አይደለሁም_____አቁም

የቃለ መጠይቅ አድራጊዉ ስም_____ ፊርማ_____.

ቃለ መጠይቁ የተካሄደበት ቀን_____.

የተቆጣጣሪዉ ስም_____ቀን_____ፊርማ_____.

የቃል ስምምነት ቅፅ

የጥናቱን አላማ በመገንዘብ፣ ከጠቅላላዉ በጥናቱ ከሚሳተፉ ነፍሰጡር እናቶች ምን ያክሉ እጅ ለኤች አይ ቪ ምክርና ምርመራ ፈቃደኛ እንደሆኑ ለመመዘን ያለዉን ጥቅም፣ እንዲሁም በእኔ ላይ ምንም አይነት አካላዊም ሆነ አእምሮአዊ ጉዳት የማያደርስ መሆኑን በመረዳት ማንም ሰዉ ግፊት ሳያደርግብኝ በራሴ ሙሉ ፈቃድ በጥናቱ ላይ ለመሳተፍ ተስማምቻለሁ።

አመሰግናለሁ!!!

Version No 2, 20/06/12

Annex 4. Information sheet and consent form (Afaan Oromoo Version)

Waraqaa odeeffannoo

Ani_____kanan jedhamu, magaalaa asallaatti dhaabata ogummaa fayyaa kan mootummaa keessatii dubartoota tajaajila hordofii da'umsa duraa duukka buaa jiran waee gorsaafii qorannoo HIV irratti fedhii isaanii ilaaluu mata duree jedhuun quannoo barataa Taaddasaa Fiqiree, Yuunivarsiitii Addis Ababaatti, damee fayyaa, kutaa narsiitiifii narsii dessiftuu, sagantaa mastarsii kan taeen adeemsifamurrati, odeeffannoo kanan sassaabu yoo tau, galmi qu'annichaas magaalaa asallaatitti, hospitaala asallaatii fii buufata fayyaa asalaatitti hoadholiin hordoffii dubartii ulfaa tajaajilaman waaee gorsafii qorannoo HIV irratti fedhii isaan qaban hubachuuf kan adeemsifamu dha. Dabalataannis qu'annichi waantota gorsaafii qorannoo HIV irratti dhiibaa gessisan addaan baasuuf ni tajaajila

Isisnis quanno kanarratti kan afferamtan yommu ta'u, gaaffiif deebii keessatti gaaffillee gaggabbaaboo tokko tokkoofii waee HIV tii fii waaee gorsaafii qorannoo HIV ilaalcha qabdanii fii kan biros ni gaafatamtu. Hirmaannaan keseessan guutumaan guutuutti fedhii keessanirratti kan hundaae yoo ta`u odeeffannoon quannoo kanarraa argamus dubartoonni ulfaa gorsaafii qorannoo HIV fudhachuu irratti fedhii isaan qaban haalota guddisuu danda`an ittiin bocuuf, foyyessuuf odeeffanno fayyaadan argachuuf ni gargaara.

Odeefannooon kennitan hundi isaatuu iccitiin isaa kan eegamu yoo tau kanuma mirkanessuufis maqaan keessan hin barbaadamuu, fuula waraqaa kanatirrattis hin barraa`u, odeeffannoo isin kennitan wajjiinis waan walqabatu hin qabu.

Quannaa kanarratti hirmaachuu dhiisuu, yoroo barabaadanitti hirmaannaa keessan dhaabuu, gaffii isinitti toluu dhabeefis deebii kennuu dhiissuu mirga kan qabdan yoo ta`u kana gochuun keesan immoo tajaajila argachuu qabdan irratti miidhaa tokko i'yuu hinfiddu, garuu odeeffannoon isin amanammuummaan nuuf kennitan quannoo keenyaaf baayyee barbaachisaa ta`uu isaatiif dursinee isin galateefachaa, quannoo kanarratti hirmaachuf fedha qabaachuu keessan isin gaafanna.

Eeyyee _____itti fufi Lakki_____dhaabi

Maqaa gaaffataa_____mallattoo_____

Guyyaa gaafiichi itti adeemsifame_____

Magaa too`ataa_____guyyaa_____mallattoo_____

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Unkka Walii Galtee Jechaan (Afoolan)

Ani hirmaattuun qu'annoo kanaa, kaayyoo qu'annoo kanaa hubachuudhaan, haadholi hordoffii dubartii ulfaa tajaajilaman keessaa hammam isaanii waa`ee gorsaafii qorannoo HIV irratti akka fedhii qaban beekuun faayidaa inni qabu hubachuun, anarrattis quannoon kuni qaama kootirrattis ta`ee samuu kootirratti miidhaa kamiyyu akka hin fidne hubachuu, eenyuyyuu osoo na hin dirqisiisisn fedhii kiyyaan qu'annoo kanarratti hirmaachuuf walii galeen jira.

Galatooma!!!

Version No 2, 20/06/12

Annex 5. Questionnaire (English version)

Addis Ababa University School of Medicine College of Health Science Department of Nursing and Midwifery.

Instructions to the data collector:- Please encircle the participants' response from the given alternatives for each of close ended questions and fill all the participants' response on the blank spaces for open ended questions.

Part I. Socio-demographic characteristics

1. What is your birth date?
   A. 19 years and below C. 30-39 years
   B. 20-29 years D. 40 years and above
2. From which ethnic group do you belong?
   A. Amhara C. Tigrie
   B. Oromo D. Guragie E. Others specify_____
3. What religion do you follow?
   A. Orthodox C. Protestant
   B. Muslim D. Catholic E. Others specify_____
4. What is your marital status?
   A. Married C. Divorced
   B. Single D. Widowed E. Others specify_____
5. If you are married, are you currently living with your husband?
   A. Yes B. No
6. What is your educational background?
   A. Illiterate C. Primary
   B. Read and write D. Secondary E. Tertiary
7. What do you do for a living? (What is your occupation?)
   A. House wife C. Government employee
   B. Private employee D. Self employed E. Others specify_____
8. Where do you live? (Your place of residence)
   A. Urban dweller
   B. Rural dweller

9. How many times do you gave birth?

A. Primipara C. Nullipara

B. Multipara

10. How many family members do you have?

A. < 3 C. 3-6

B. > 6

11. How many ANC visits do you made in the current pregnancy?

A. Only one C. Four and above

B. Two to three

12. How much is it your family's average monthly income?

A. < 500 birr C. 500 – 1000 birr

B. > 1000 birr

Part II. Knowledge of HIV, HCT, MTCT and PMTCT

13. Have you ever heard about a disease called HIV/AIDS?

A. Yes B. No

14. If your answer for question No. 13 is yes, from who do you heard? **(**More than one answer is possible)

A. From mass media C. From partner

B. From health workers D. From friends E. From others specify_____

15. Do you know how HIV is transmitted?

A. Yes B. No

16. If your answer for question No. 15 is yes, what are the modes of HIV transmission? (More than one answer is possible)

A. Sexual contact C. Contaminated sharps

B. Blood and blood products D. Others specify_____

17. Do you think that HIV/AIDS is preventable?

A. Yes B. No

18. If your answer for question No. 17 is yes, mention the methods how to prevent it? (More than one answer is possible)

A. Abstinence C. Use of condoms

B. Be faithful with partner D. Others specify_____

19. Can HIV/AIDS be cured?

A. Yes C. I don't know

B. No

20. Have you ever heard about HCT?

A. Yes B. No

21. If your answer for question No. 20 is yes, from who do you heard? (More than one answer is possible)

A. From mass media C. From partner

B. From health workers D. From friends E. From others specify_____

22. Can a woman living with HIV/AIDS transmit the disease to her baby?

A. Yes B. No

23. If your answer for question No. 22 is yes, when do you think that HIV positive woman transmit the virus to her baby? (More than one answer is possible)

A. During pregnancy C. During breast feeding

B. During delivery D. Others specify_____

24. Is MTCT of HIV preventable?

A. Yes B. No

25. If your answer for question No. 24 is yes, what do you think how it will be prevented? (More than one answer is possible)

A. Use of antiretroviral drugs C. Others specify_____

B. By avoiding breast feeding

Part III. Risk perception

26. Do you feel that you are at risk of contracting HIV?

A. Yes C. I don't know

B. No

27. If your answer for question No. 26 is yes, to what extent do you think that you are at risk of acquiring HIV infection?

A. Low C. High

B. Moderate D. I don't know

28. If your answer for question No. 26 is yes, what is/are the reason/s? (More than one answer is possible)

A. I had multiple sexual partner C. I had shared sharp instruments

B. My partner is not faithful D. Others specify_____

Part IV. Attitudes and practices towards HCT and PMTCT

29. Do you feel that HCT is useful?

A. Yes C. I don't know

B. No

30. If your answer for question No. 29 is yes, mention your reason/s? (More than one answer is possible)

A. To know one's HIV status C. Others specify_____

B. To take ART if HIV positive

31. If your answer for question No. 29 is no, mention your reason/s?

A. Cause stress C. Others specify_____

B. Increases fright

32. Have you ever been tested for HIV before?

A. Yes B. No

33. If your answer for question No. 32 is yes, have you received the result?

A. Yes I have received

B. No I haven't received the result

34. Are you willing to accept HCT service now?

A. Yes B. No

35. If your answer for question No. 34 is yes, mention your reason/s? (More than one answer is possible)

A. To deliver HIV free baby if positive C. Others specify_____

B. To take ART if positive

36. If your answer for question No. 35 is no, mention your reason/s? (More than one answer is possible)

A. Fear of stress of HIV positive result C. Not yet decided

B. Because I feel healthier D. Lack of trust of confidentiality E. Others specify____

Part V. Social factors that influence willingness for HCT

37. Whom do you communicate with or disclose to HIV test result? (More than one answer is possible)

A. Partner C. Health worker E. Not for anyone

B. Family D. The public F. Other specify_____

38. What is your fear if HIV test result is positive? (More than one answer is possible)

A. Stress of own and baby's health D. Mistreat by health workers

B. Stigma and discrimination E. Rejection by husband

C. Lack of trust of confidentiality F. I don't fear

39. Will you disclose HIV positive result to your partner?

A. Yes B. No

40. If your answer for question No.39 is yes, what is your reason/s? (More than one answer is possible)

A. He accepts it as his own problem C. Others specify_____

B. Shares all the burdens with me

41. If your answer for question No 39 is no, what is your reason/s? (More than one answer is possible)

A. Breaking of marriage C. Physical violence

B. Psychological harassment D. He consider just my alone problem E. Others specify_____

42. Which type of approach do you think preferable for HCT?

A. Voluntarily when the mother needs C. Others specify_____

B. Routinely provider initiated for all

43. Do you fear that your HIV test result may not be confidential?

A. Yes C. I don't know

B. No

44. Do you feel that the room for HCT is private?

A. Yes C. I am not sure

B. No

Annex 6. Questionnaire (Amharic version)

መጠይቅ

በአዲስ አበባ ዩኒቨርስቲ የሕክምና ትምህርት ቤት የጤና ሳይንስ ኮሌጅ የነርስና የአዋላጅ ነርሶች ትምህርት ክፍል

<u>ትዕዛዝ ለመረጃ ሰብሳቢዎች</u> - እባክዎ ከተሰጡት አማራጮች ዉስጥ ተሳታፊዎች የሚሰጧቸዉን መልሶች ያክብቡ፤ ዝርዝር መልስ ለሚያስፈልጋቸዉም ተሳታፊዎች የሚሰጧቸዉን መልሶች በክፍት ቦታዎች ላይ ይፃፉ

ክፍል ፩. ስነ-ማህበራዊ ባህሪያት

1. እድሜዎ ስንት ነዉ

ሀ. ከ19 አመት በታች ሐ. ከ30-39 ዓመት

ለ. ከ20-29 ዓመት መ. ከ 40 ዓመት በላይ

2. የየትኛዉ ብሄር ተወላጅ ነዎት?

ሀ. አማራ ሐ. ትግሬ

ለ. ኦሮሞ መ. ጉራጌ ሠ. ሌላ፤ ይጥቀሱ_____.

3. የየትኛዉ እምነት ተከታይ ነዎት?

ሀ. ኦርቶዶክስ ሐ. ፕሮቴስታንት

ለ. ሙስሊም መ. ካቶሊክ ሠ. ሌላ፤ ይጥቀሱ_____.

4. የጋብቻ ሁኔታዎ ምን ይመስላል?

ሀ. አግብቻለሁ ሐ. ተፋትቻለሁ

ለ. አላገባሁም መ. ባሌ ሞቶብኛል ሠ. ሌላ፤ ይጥቀሱ_____.

5. ያገቡ ከሆነ አሁን ከባለቤትዎ ጋር ነዉ የሚኖሩት?

ሀ. አዎ ለ. አይደለም

6. የትምህርት ደረጃዎ ምን ይመስላል?

ሀ. ያልተማረ ሐ. አንደኛ ደረጃ

ለ. ማንበብና መፃፍ መ. ሁለተኛ ደረጃ ሠ. ኮሌጅ ወይም ዩንቨርሲቲ

7. ስራዎ ምንድን ነዉ?

ሀ. የቤት እመቤት ሐ. የመንግስት ሰራተኛ

ለ. የግል ድርጅት ተቀጣሪ መ. በራሷ ድርጅት የምትሰራ ሠ. ሌላ፤ ይጥቀሱ_____.

8. መኖሪያዎ የት ነዉ?

ሀ. ከተማ ለ. ገጠር

9. ስንት ጊዜ ወልደዋል?

ሀ. አንድ ጊዜ ለ. ከአንድ በላይ ሐ. አልዎለድኩም

10. የቤተሰብዎ አባል ብዛት ስንት ነዉ?

ሀ. ከ3 ያነሰ ለ. ከ 3 - 6 ሐ. ከ 6 በላይ

11. በአሁኑ እርግዝና ስንት የእርግዝና ምርመራ ክትትል አደረጉ?

ሀ. አንድ ጊዜ ብቻ ሐ. አራትና ከዚያ በላይ

ለ. ከሁለት እስከ ሦሥት

12. የቤተሰብዎ አማካይ ወርሃዊ ገቢ ስንት ነዉ?

ሀ. ከ500 ብር በታች ሐ. ከ1000 ብር በላይ

ለ. ከ500 – 1000 ብር

ክፍል ፪. ስለ ኤች አይ ቪ፣ ኤች ሲ ቲ፣ ኤም ቲ ሲ ቲ እና ፒ ኤም ቲ ሲ ቲ ያላቸዉ እዉቀት

13. ስለ ኤች አይ ቪ/ኤድስ በሽታ ሰምተዉ ያዉቃሉ?

ሀ. አዎ ለ. አላዉቅም

14. ለ13ኛዉ ጥያቄ መልስዎ አዎ ከሆነ፤ ከየት ሰሙ? (ከአንድ በላይ መልስ ይቻላል)

ሀ. ከመገናኛ ብዙሃን ሐ. ከባለቤቴ

ለ. ከጤና ባለሙያዎች መ. ከጓደኞቼ ሠ. ከሌሎች፤ ይጥቀሱ_____.

15. ኤች አይ ቪ እንዴት እንደሚተላለፍ ያዉቃሉ?

ሀ. አዎ ለ. አላዉቅም

16. ለ15ኛዉ ጥያቄ መልስዎ አዎ ከሆነ፣ የመተላለፊያ መንገዶቹ ምንድን ናቸዉ? (ከአንድ በላይ መልስ ይቻላል)

ሀ. የግብረ ሥጋ ግንኙነት ሐ . የተበከሉ ስለቶች

ለ. ደምና የደም ዉጤቶች መ. ሌሎች፤ ይጥቀሱ_____.

17. ኤች አይ ቪ/ኤድስን መከላከል ይቻላል ብለዉ ያስባሉ?

ሀ. አዎ ለ. አይቻልም

18. ለ17ኛዉ ጥያቄ መልስዎ አዎ ከሆነ፣ እንዴት መከላከል እንደሚቻል መንገዶቹን ይጥቀሱ? (ከአንድ በላይ መልስ ይቻላል)

ሀ. መታቀብ ሐ. ኮንዶም መጠቀም

ለ. መተማመን መ. ሌሎች፤ ይጥቀሱ_____.

19. ኤች አይ ቪ/ኤድስ መዳን ይችላል?

ሀ. አዎ ሐ. አላዉቅም

ለ. አይችልም

20. ስለ ኤች አይ ቪ ምክርና ምርመራ ሰምተዉ ያዉቃሉ?

ሀ. አዎ ለ. አልሰማሁም

21. ለ20ኛዉ ጥያቄ መልስዎ አዎ ከሆነ፤ ከማን ነዉ የሰሙት? (ከአንድ በላይ መልስ ይቻላል)

ሀ. ከመገናኛ ብዙሃን ሐ. ከባለቤቴ

ለ. ከጤና ባለሙያዎች መ. ከጓደኞቼ ሠ. ከሌሎች፤ ይጥቀሱ_____.

22. ከኤች አይ ቪ/ኤድስ ጋር የምትኖር እናት በሽታዉን ወደ ልጇ ማስተላለፍ ትችላለች?

ሀ. አዎ ለ. አትችልም

23. ለ22ኛዉ ጥያቄ መልስዎ አዎ ከሆነ፤ መቼ ነዉ የምታስተላልፈዉ? (ከአንድ በላይ መልስ ይቻላል)

ሀ. በእርግዝና ጊዜ ሐ. በጡት ማጥባት ጊዜ

ለ. በወሊድ ጊዜ መ. ሌሎች፤ ይጥቀሱ_____.

24. ከእናት ወደ ልጅ የሚተላለፈዉን ኤች አይ ቪ መከላከል ይቻላል?

ሀ. አዎ ለ. አይቻልም

25. ለ24ኛዉ ጥያቄ መልስዎ አዎ ከሆነ፤ እንዴት መከላከል እንደሚቻል ምን ያስባሉ? (ከአንድ በላይ መልስ ይቻላል)

ሀ. ፀረ-ኤች አይ ቪ መድሃኒቶችን በመጠቀም ሐ. ሌሎች፤ ይጥቀሱ_____.

ለ. ጡት ባለማጥባት

ክፍል ፫. የተጋላጭነት ስጋት ወይም አስተሳሰብ

26. ለኤች አይ ቪ ተጋልጫለሁ ብለዉ ያስባሉ?

ሀ. አዎ ሐ. አላዉቅም

ለ. አላስብም

27. ለ26ኛዉ ጥያቄ መልስዎ አዎ ከሆነ፤ የተጋላጭነትዎ መጠን ምን ያክል ነዉ?

ሀ. ዝቅተኛ ሐ. ከፍተኛ

ለ. መካከለኛ መ. አላዉቅም

28. ለ26ኛዉ ጥያቄ መልስዎ አዎ ከሆነ፤ ምክንያቱ/ምክንያቶቹ ምንድን ነዉ/ናቸዉ? (ከአንድ በላይ መልስ ይቻላል)

ሀ. ከአንድ በላይ የወሲብ ጓደኛ ነበረኝ ሐ. ስለት ነገሮችን በጋራ ተጠቅሜአለሁ

ለ. ባለቤቴ ታማኝ አይደለም መ. ሌሎች፤ ይጥቀሱ_____.

ክፍል ፬. ስለ ኤች ሲ ቲ እና ፒ ኤም ቲ ሲ ቲ አመለካከትና ምግባር

29. የኤች አይ ቪ ምክርና ምርመራ ጥሩ ነዉ ብለዉ ያስባሉ?

ሀ. አዎ ሐ. አላዉቅም

ለ. አይደለም

30. ለ29ኛዉ ጥያቄ መልስዎ አዎ ከሆነ፤ ምክንያትዎን ይግለፁ (ከአንድ በላይ መልስ ይቻላል)

ሀ. የአንድን ሰዉ የኤች አይ ቪ ሁኔታ ለማወቅ ሐ. ሌሎች፤ ይጥቀሱ_____.

ለ. ኤች አይ ቪ ፖዘቲቭ ከሆኑ የእድሜ ማራዘሚያ መድሃኒት ለመዉሰድ

31. ለ29ኛዉ ጥያቄ መልስዎ አይደለም ከሆነ፤ ምክንያትዎን ይግለፁ (ከአንድ በላይ መልስ ይቻላል)

ሀ. ጭንቀት ይፈጥራል ሐ. ሌሎች፤ ይጥቀሱ_____.

ለ. ፍርሃት ይጨምራል

32. የኤች አይ ቪ ምርመራ አድርገዉ ያዉቃሉ?

ሀ. አዎ ለ. አላዉቅም

33. ለ32ኛዉ ጥያቄ መልስዎ አዎ ከሆነ፤ የምርመራ ዉጤትዎን ወስደዋል?

ሀ. አዎ ወስጃለሁ ለ. የለም አልወሰድኩም

34. አሁን የኤች አይ ቪ ምክርና ምርመራ አገልግሎት ለመዉሰድ ፈቃደኛ ነዎት?

ሀ. አዎ ለ. አይደለሁም

35. ለ34ኛዉ ጥያቄ መልስዎ አዎ ከሆነ፤ ምክንያትዎን ይግለፁ (ከአንድ በላይ መልስ ይቻላል)

ሀ. ኤች አይ ቪ ፖዘቲቭ ከሆንኩ መከላከያ መድሃኒት በመዉሰድ ከቫይረሱ ነፃ የሆነ ልጅ ለመዉለድ

ለ. ኤች አይ ቪ ፖዘቲቭ ከሆንኩ የእድሜ ማራዘሚያ መድሃኒት ለመዉሰድ

ሐ. ሌሎች፤ ይጥቀሱ_____.

36. ለ34ኛዉ ጥያቄ መልስዎ አይደለሁም ከሆነ፤ ምክንያትዎን ይግለፁ (ከአንድ በላይ መልስ ይቻላል)

ሀ. ዉጤቱ ኤች አይ ቪ ፖዘቲቭ ከሆነ ጭንቀቱን በመፍራት ሐ. እስካሁን አልወሰንኩም

ለ. ምክንያቱም ጤንነት ይሰማኛል መ. ሚስጥራዊነቱ ላይ እምነት የለኝም ሠ. ሌሎች፤ ይጥቀሱ_____.

ክፍል ፮. በኤች አይ ቪ ምክርና ምርመራ ፍቃደኝነት ላይ ተፅዕኖ የሚያሳድሩ ማህበራዊ ጉዳዮች

37. የኤች አይ ቪ የምርመራ ዉጤትዎን የሚያሳዩት ለማን ነዉ? (ከአንድ በላይ መልስ ይቻላል)

ሀ. ለባለቤቴ ሐ. ለጤና ባለሙያ ሠ. ለማንም

ለ. ለቤተሰቤ መ. ለህዝብ ረ. ሌሎች፤ ይጥቀሱ_____.

38. የኤች አይ ቪ ምርመራ ዉጤት ፖዘቲቭ ቢሆንብዎ የሚፈሩት ምንድን ነዉ? (ከአንድ በላይ መልስ ይቻላል)

ሀ. ስለ እኔና ልጄ ጤና መጨነቅ ሐ. ሚስጥራዊነቱ ላይ እምነት ማጣት ሠ. በባለቤቴ ተቀባይነት ማጣት

ለ. መገለልና መድልዎ መ. ከጤና ባለሙያዎች ተገቢዉ ትኩረት መነፈግ ረ. ምንም አልፈራም

39. ኤች አይ ቪ ፖዘቲቭ ቢሆኑ የምርመራ ዉጤትዎን ለባለቤትዎ ይናገራሉ?

ሀ. አዎ ለ. አልናገርም

40. ለ39ኛዉ ጥያቄ መልስዎ አዎ ከሆነ፤ ምክንያትዎ ምንድን ነዉ? (ከአንድ በላይ መልስ ይቻላል)

ሀ. ችግሩን እንደራሱ አድርጎ ስለሚቀበል ሐ. ሌሎች፤ ይጥቀሱ_____.

ለ. ሁሉንም ጫናዎች ከእኔ ጋር ስለሚካፈል

41. ለ39ኛዉ ጥያቄ መልስዎ አልናገርም ከሆነ፤ ምክንያትዎ ምንድን ነዉ? (ከአንድ በላይ መልስ ይቻላል)

ሀ. የትዳር መፍረስ ሐ. አካላዊ ጥቃት

ለ. ሥነ-አእምሮአዊ ዛቻ መ. የራሴ ችግር ብቻ አድርጎ ስለሚቆጥር ሠ. ሌሎች፤ ይጥቀሱ_____.

42. ለኤች አይ ቪ ምክርና ምርመራ የትኛዉ አይነት አቀራረብ ተመራጭ ነዉ ብለዉ ያስባሉ?

ሀ. በፍቃደኝነት ላይ የተመሰረተ፤ እናቲቱ ስትፈልግ ሐ. ሌሎች፤ ይጥቀሱ_____.

ለ. ሁሌም ለሁሉም ነፍሰ ጡር እናቶች በአገልግሎት ሰጭዉ አነሳሽነት

43. የኤች አይ ቪ ምርመራ ዉጤትዎ ምስጢራዊ አይሆንም ብለዉ ይፈራሉ?

ሀ. አዎ ሐ. አላዉቅም

ለ. አልፈራም

44. በኤች አይ ቪ ምክርና ምርመራ ክፍሉ ነፃነት ይሰማዎታል?

ሀ. አዎ ለ. አይሰማኝም ሐ. እርግጠኛ አይደለሁም

Version No 2, 20/06/12

Annex 7. Questionnaire (Afaan Oromoo version)

Gaaffiilee

Yuunivarsiitii Addis Ababaatitti, Damee fayyaa, kutaa narsii tii fii narsii dessiftuu sagantaa maastarsii

Qajeelcha odeeffannoo funaanaadhaaf:- gaafilee filannoo qabaniif deebii kenuuf kannen sirrii ta'aan filadhuutii itti mari. Gaafilee filannoo hin qabneef immoo deebii kennuudhaf eddo kenname irratti barreessi.

Kuutaa I. Amala hawaasummaa fi ummataa

1. Umriin kee meeqa(waggaadhaan)?
   A. < 19 C. 30-39
   B. 20-29 D. > 40
2. Gosti yookaan sanyiin kee isa kami?
   A. Amaara C. Tigiree
   B. Oromoo D. Guraagee E. kan biraa(ibsi)_____
3. Amantii kam hordofta ?
   A. Ortodoksii C. Proteestaantii
   B. Islaama D. Katolikii E. kan biraa(ibsi)_____
4. Haalli gaa'ila keetii maali?
   A. Heerumera C. Kan hiike
   B. Hin heerumne D. Abban manaa kan irraa du`e E. kan biraa(ibsi)_____
5. Heerumteetta yoo ta`e amma abbaa manaa kee wajjiin jiraachaa jirtaa?
   A. Eeyyee B. Lakki
6. Sadarkaan barnootaa kee hammami??
   A. Hin baranne C. Sadarkaa tokkoffaa
   B. Dubbisuuf barreessuu D. Sadarkaa lammaffaa E. Sadarkaa sadaffaa/koolleejjii
7. Hojiin kee maali?
   A. Haadah manaa C. Hojjattuu mootummaa
   B. Hojjattuu dhaaba dhuunfaa D. Hojjattuu dhuunfaa E. Kan biraa(ibsi)_____

8. Eddoon jireenya kee eessa?

A. Magaalaa keessa

B. Ganda baadiyyaa keessa

9. Yoo meeqa deessee ?

A. kun kan jalqaba kooti B. Eeyyee C. Hindeegnye

10. Baayyinni maatii keetii meeqa?

A. < 3 C. 3-6

B. > 6

11. Ulfa kanaaf tajaajila dubartii ulfaatiif yeroo meeqa deddeebite?

A. Aal tokko qofa C. Afuriif achii ol

B. Lamaa hanga sadihii

12. Galiin matii keetii kan ji`aa meeqa(qarshiidhaan)?

A. < 500 C. 500 – 1000

B. > 1000

Kuutaa II. Gaaffilee beekumsa HIV, HIV gorsaafii qorannoo, Haadharrra gara daaimatitti darbuu HIV tii fi akkaataa haadharra gara daaimaatiiti hin dabarre ittin godhaman sakatta`an

13. Waa`ee dhibee HIV/AIDS jedhamu dhageessee beektaa?

A. Eeyyee B. Lakki

14. Deebiin kee kan gaaffii 13ffa eeyyeen yoo taa`e eessaa dhageesse?(deebii tokkoo ol kennuun ni danda`ama)

A. Miidiyaa irraa C. Abbaa manaa kootirraa

B. Ogeessa fayyatirra D. Hiriyyoota kootirra E. Kan biraa(ibsi)_____

15. Akkaataa HIV iin itti daddarbuu beektaa?

A. eeyyee B. lakki

16. Deebiin kee kan lakkoofsa 15ffa eeyyen yoo ta`e, haalli daddarbiinsa isaa maal faa'iidha? (deebii tokkoo ol kennuu ni dandeessa)

A. Qunnamtii saalaatiin C. Waantota qara qabaniin

B. Dhiigaafi waantota fakkaataniin D. Kan biraa(ibsi)_____

17. HIVAIDSiin dhibee ofirra ittisu danda`amu sitti fakkaata?

A. Eeyyee B. Lakki

18. Deebiin kee kan gaaffii 17ffa eeyyeeni dha yoo ta`e akkamitti ofirra ittisuu akka danda`amu eeri? (deebii tokko ol kennuu ni dandeessa)

A. Gaa'ila dura wal qunnamtii saalaa dhiisuun C. Koondomii fayyadamuun

B. Abba mana yokiin hiriyyaa ofiitiif amanamuun D. Kan biraa(ibsi)_____

19. HIV/AIDSiin fayyuu danda`aa?

A. Eeyyeen C. Ani hin beeku

B. Lakki

20. Waa`ee gorsaafi qoranno HIV dhageessee beektaa?

A. Eeyyee B. Lakki

21. Deebiin kee kan gaaffi 20ffa eeyyen yoo ta`e, eessaa dhageesse? (deebii tokkoo ol kennuu ni dandeessa)

A. Miidiyaa irraa C. Abbaa manaa kootirraa

B. Ogeessa fayyatirra D. Hiriyyoota kootirra E. Kan biraa(ibsi)_____

22. Dubartiin HIV qabdu dhibicha daa`ima isheetitti dabarsuu dandeessii?

A. Eeyyee B. Lakki

23. Deebiin kee kan gaaffii 22ffa eeyyeen yoo ta`e, haati HIV qabdu takka daa`ima isheetitti dhibicha yeroo kam dabarsiti jettee yaada? (deebii tokkoo ol kennuu ni dandeessa)

A. Yeroo ulfaa C. Yeroo harma hoosiftu

B. Yeroo deessu D. Kan biraa(ibsi)_____

24. Dhibeen HIV/AID haaadha irra gara daa`imatitti akka hin dabarre ittisuun ni danda`amaa?

A. Eeyyee B. Lakki

25. Deebiin ke kan gaaffi 24ffa eeyyeen yoo ta`e, akkamitti ittisuun danda`ama jettee yaada? (deebii tokkoo ol kennuu ni dandeessa)

A. Qoricha HIV/AIDS fudhachuun C. Kan biraa(ibsi)_____

B. Harma hoosisuu dhiisuun

Kuutaa III. Sodaa saaxilamaa

26. HIV dhaaf saaxila bayeen jira jettee yaada

A. Eeyyee C. Hin beeku

B. Lakki

27. Deebiin kee kan gaafiii 26ffa eeyyeen yoo ta`e, hammam HIV tiif saaxila bayeen jira jettee yaadda?

A. Xinno C. Baayyee

B. Giddu galeessa D. Hin beeku

28. Deebiin kee kan gaaffii 26ffa eeyyen yoo ta`e maaliif akkaas jette? (deebii tokkoo ol kennuu ni dandeessa)

A. Walqunnamtii nama baayyee wajiin waanan qabuuf

C. Meeshaa qara qabu nama wajjiin fayyadamee waanan beekuuf

B. Hiriyyaan koo/abbaan manaa koo amanamaa miti

D. Kan biraa(ibsi)_____

Kuutaa IV. Ilaalchaa fi raawii HCT fi PMTCT

29. Gorsii fi qorannoon HIV barbaachisaaddha jettee yaaddaa??

A. Eeyyee C. Hin beeku

B. Lakki

30. Deebiin kee kan gaaffii lakkofsa 29ffa eeyyeen yoo ta`e, maaliif?(deebii tokkoo ol kennuu ni dandeessa)

A. Namni tokko akka HIV qabuuf hin qabne baruuf C. Kan biraa(ibsi)_____

B. HIV yoo qabaatan qoricha dafanii fudhachuuf

31. Deebiin kee kan gaaffii lakkofsa 29ffa lakki yoo ta`e, maaliif?

A. Nama waan cinquuf C. Kan biraa(ibsi)_____

B. Soda waan namatti dabaluuf

32. Kanaan dura HIV qoratamtee beektaa?

A. Eeyyee B. Lakki

33. Deebiin ke kan gaaffii lakkoofsa 32ffa eyyen yoo ta`e, bu`aa isaa bartee jirta?

A. Eeyyen B. Lakki

34. Amma gorsaaf qorannoo HIV tiif akkaataa haadharra gara mucaa itti hin dabarre irratti tajaajila argachuuf fedhii qabda?

A. Eeyyee B. Lakki

35. Deebiinkee kan l;akkoofsa 34ffa eeyyeen yoo ta`e, maaliiif(deebii tokkoo ol kennuuu ni dandeessa)

A. Haati HIV yoo qabaaatte daa`ima HIV irra bilisa ta`e dauuf C. Kan biraa(ibsi)_____

B. HIV yoon qabaadhe qorsa isaa jalqabuuf

36. Deeebiin kee kan lakkofsa 35ffa lakki yoo ta`e, maaliif?(deebii tokkoo ol kennuu ni dandeessa)

A. Firii HIV sodaadhaaf C. Amaamaatii Murttii irra hin geenye

B. Aamma fayyaa waan natty dhagahamuuf D. Iccitiin najalaa baha jedhee waanan sodaadhuf

E. Kan biraa (ibsi)_____

Kuutaa V. Dhima hawaasummaa fedhii HCT irratti diibaa fidu

37. Firii qoranno HIV kee eenyutii himatta (deebii tokkoo ol kennuu ni dandeessa)

A. Abbaa manaa kootittti C. Ogeessa fayyaa E. Eenyuttuu

B. Maatii kootitti D. Ummata hundatti F. Kan biraa(ibsi)----------

38. Firiin qorannoo dhiiga keetii HIV otoo qabaatee maal sodaatta? (deebii tokkoo ol kennu ni dandeessa)

A. Waa`ee fayyaa kootiif fayyaa daa`ima kootii dhiphachuu

B. Loogii fi addaan baasu

C. Odeeffannoon/iccitiin najalaa akka hin aaneef

D. Ogeessonni fayya seeraan akka nah in keessumeessine

E. Abbaan mana koo/hiriyyaan koo akka nah in jibbine F. Homaa hiinssoodaaduu

39. HIV osoo dhiiga keessaa qabaachuukee bartee hiriyyaa kee/abbaa manaa keetitti ni himtaa?

A.Eeyyee B.Lakki

40. Deebiin ke kan gaaffii 39ffa eeyyeen yoo ta`e, maaliif)deebii tokkoo ol kennuu ni dandeessa)

A. Balleessaa isaa ta`uu waan beekuuf C. Kan biraa(ibsi)_____

B. Rakkina koo hunda na wajjiin waan danda`uuf

41. Deebiin kee kan gaaffii lakkoofsa 40ffa lakki yoo ta`e, maaliif?(deebii tokkoo olkennuu ni dandeessa)

A. Abbaan manaa koo akka na hin hiikneef C. Miidhaa qaama akka narra hin geessisneef

B. Sammuu koo jechaan akka nah in miinees D. Rakkina dhuunfaa kootiiti jedhee waanan laaluuf

E. kan biraa(ibsi)_____

42. Gorsiifii qorannoon HIV haala akkamiitiin yoo kenname wayya jetteet yaadda?

A. Fedhii haadholitirrati hundaa`ee yoo isaan gaafatan qofa C. Kan biraa (ibsi)_____

B. Yeroo hundaa ogeessa fayyaatiin yoo jalqbamee

43. Firiin qoranno HIV keetii iccitiin isaa hin eeggamu jettee yyadde beektaa?

A. Eeyyee C. Hin beeku

B. Lakki

44. Kutaan gorsaafii qorannoo HIV iccitaawadha jettee yaaddaa?

A. Eeyyee C. Guutumaan guututti natti hin fakkaatu

B. Lakki

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Annex 8. Curriculum Vitae of the principal investigator and the Advisor

CARICULUM VITEA OF PRINCIPAL INVESTIGATOR

1. PERSONAL DATA

Name Tadesse Fikre Lema
Sex Male
Date of Birth October 15,1982 Fiche (North Shewa)
Marital States Single
Address Addis Ababa
Mobile 09 11 84 16 01

2. EDUCATIONAL BACK GROUND

2.1. MSc Student (Maternity Nursing & Reproductive Health) in Addis Ababa University
2.2. BSc in Midwifery from Addis Ababa University (2006-2008)
2.3. Diploma in Midwifery from Harer Nursing School (1998-2000)
2.4. Certificate of Basic Emergency Obstetrics And Newborn Care course (Nove. 16-28, 2009) Yekatit 12 Hospital Addis Ababa.
2.5. Certificate of IMNCI (Integrated Management Of Neonatal & Childhood Illness) (23 Augu.-03 Sept. 2004) Tikur Anbessa Hospital Addis Ababa.
2.6. Certificate from computer training center (April-September 2004) Asella.
2.7. Certificate of teaching methodology course (Augu.1-Sept.23 2005) Asella Nursing school Asella.

3. WORK EXPERIENCE

3.1. Midwife Nurse, Kuyu Health Center, N. Shewa (December 10,2000-September 10,2001) Gebire Guracha Tel. 31 00 24
3.2. Midwife Nurse, Chancho Health Center, N. Shewa (September 10,2001-Feburary 9,2004) Chancho Tel. 88 00 07
3.3. Instructor, Adama University Asella Health Science Campus, Arsi (February 9,2004-November 10,2010) Asella Tel. 0223 31 12 57

4. LANGUAGE ABILITY

4.1. Amharic
4.2. Afan Oromo
4.3. English

5. REFERENCE

5.1. Zinash Moges (HO) Tel. 31 00 24 Kuyu
5.2. Abinet Amiha (HO) Tel. 88 00 07 Chancho
5.3. Ato Dagne Mulu (HO) Tel. 0223 31 12 57 Asella

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FEKADU AGA

Date of Birth: 24 April 1967
Sex: Male
Address: P.O. Box 9083
Addis Ababa
Ethiopia

Nationality: Ethiopian
Marital Status: Married
Telephone: +251 911 033684
E-mail: fiqaaduuagaa@yahoo.com OR
fekaduaga@hotmail.com

EDUCATION

2006	MSc in Health Sciences (Preventive Nursing Science), University of Kuopio, Department of Nursing Science, Finland
1996	BSc in Nursing, Jimma Institute of Health Sciences, School of Nursing, Ethiopia
1988	Diploma in Nursing, Jimma Institute of Health Sciences, School of Nursing, Ethiopia
1985	Secondary School completed, Naqampte Comprehensive High School, Ethiopia

WORK EXPERIENCE

Since 1999 — **Addis Ababa University (AAU) Centralized School of Nursing**

August 2006 – Present — Lecturer in the Centralized School of Nursing
- Course Offering:
  - ✓ Community Health Nursing
  - ✓ Nursing Research Methods (Undergraduate)
  - ✓ Nutrition in Health & Illness

2006 – 2008 — Director of the Centralized School of Nursing

2002 - 2004 — Director of the Centralized School of Nursing

2000 - 2002 — Assistant Dean of students for the Faculty of Medicine:
- Coordinated & managed student services & co-curricular activities
- Was member of AAU's Monitoring & Evaluation Committee for the Anti-HIV/AIDS Movement
- Supervised students' health services

1999 - 2004 — Assistant Lecturer in the Centralized School of Nursing:
- Courses Taught:
  - ✓ Medical-Surgical Nursing
  - ✓ Communicable Disease Control
  - ✓ Nutrition & Dietetics in Nursing
- Instructed & Supervised Nursing Students in Clinical Practice
- Was member of the school's Academic Committee
- Was member of the school's Curriculum Development Committee

1990 - 1999 — **Ministry of Health, Ethiopia**

1996 - 1999 — Nurse tutor/instructor in the Centralized School of Nursing:
- Courses Taught:
  - ✓ Medical-Surgical Nursing
  - ✓ Nursing Ethics
  - ✓ Health Education course
- Instructed & Supervised Nursing Students in Clinical Practice
- Was member of the school's Curriculum Committee

1990 - 1993	Staff nurse in Menelik II Hospital, Addis Ababa: ♦ Worked with patient having infectious & non-infectious disorders in medical ward. ♦ Worked with pre & post-operative patients in surgical ward.
1988 - 1990	Staff nurse in Massawa Hospital, Eritrea: ♦ Worked as a circulating nurse in the Operation Theater ♦ Provided nursing care to mothers & children including family planning services ♦ Provided emergency care to war casualties

COMPUTER & LANGUAGE SKILLS

- Computer Skills Competence:
  - ✓ Microsoft Office – MS Word, Excel, PowerPoint, and Outlook
  - ✓ SPSS
  - ✓ Internet
- Language Skills:
  - ✓ Fluent in Afan Oromo & Amharic languages.
  - ✓ Good spoken & written English.

RESEARCH INTEREST

- HIV/AIDS Family caregiving
- Self-care behavior

PUBLICATION

1. Bender, Amy; Guruge, Sepali; ***Aga, Fekadu***; Hailemariam, Damen; Hyman, Ilene; Tamiru, Melesse. International research collaboration as social relation: An Ethiopian-Canadian example. *Canadian Journal of Nursing Research*. 211; 43(2): 62 - 75
2. ***Aga, Fekadu***, Kylmä, Jari, & Nikonnen, Merja. Sociocultural Factors Influencing HIV/AIDS Caregiving in Addis Ababa, Ethiopia. *Nursing & Health Science*. 2009; 11: 244-251.
3. ***Aga, Fekadu***, Kylmä, Jari, & Nikonnen, Merja. The Conceptions of Care among Family Caregivers of Persons Living with HIV/AIDS in Addis Ababa, Ethiopia. *Journal of Transcultural Nursing*. 2009; 20 (1): 37-50.
4. ***Aga, Fekadu*** & Mekonnon, Hussein. Knowledge of Universal Precaution and Fear of Occupational Exposure to HIV/AIDS among Student Nurses and Midwives in Ethiopia. ***African Journal of Nursing and Midwifery***. 2004; 6(1): 56 - 60.
5. ***Aga, Fekadu***. Interview. *Nursing Ethics: An International Journal of Health Care Professionals*. 2004; 11 (1): 88 - 92.

SUPERVISED MScN STUNDENT RESEARCH THESIS

1. Almaz Teshome. ***Assessment of quality of antiretroviral therapy service in Felege Hiwot Hospital, Bahrdar***, 2008
2. Gosa Hailu. ***Factors affecting uptake of VCT of HIV among pregnant women attending antenatal clinic in Adama Hospital***, 2008
3. Mulu Bitew. ***Assessment of quality of nursing care provided to HIV/AIDS patients admitted to government hospitals in Addis Ababa***, 2008
4. Yaeneabeba Tadesse. ***Assessment of nurses roles and responsibilities in enhancing adherence to antiretroviral therapy among people living with HIV/AIDS in Addis Ababa***, 2008
5. Zegeye Wolde. **Assessment of symptom experiences and self-care practices among cancer patients attending treatment at Tikur Anbessa Hospital, Addis Ababa**, 2009
6. Ali Adem. **Assessment of health promotion practice among mothers attending antenatal care in health institutions of Adama twon, Oromia**, 2009
7. Wogene Jembere. ***Physician-nurse relationship: A study from nurse perspective in Addis Ababa public Hospitals***, 2010
8. Meseret Tsegaye. ***Assessment of the knowledge and practice of women for birth and emergency preparedness in Hawassa town***, 2011

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IN-SERVICE TRAINING, WORKSHOPS, & SEMINARS

Jan 24 – Feb 9, 2011	Completed the Training of Trainers (TOT) on the National Comprehensive HIV Care/ART Training Manuals organized by the Federal Ministry of Health in Collaboration with Addis Ababa University-MARCH Project
Aug 23 – Sept 8, 2010	Attended the workshop Safe Motherhood for African Nurses and Midwives organized by the Suzzane Mubarak Regional Centre for Women's Health and Development (Alexandria, Egypt)
June 28 – July 3, 2010	Completed Instructional Designing Training organized by JHPIEGO
Feb. 15 – 17, 2010	Completed Clinical Teaching Skills training organized by JHPIEGO
11th Nov. 2009	Organized and conducted Interdisciplinary Health Sciences Forum on Violence Against Women in collaboration with a team of Canadian and Ethiopian researchers
19 May – 24 July 2009	Attended the 8th Annual CHSRF/CIHR Research Internship: *"Multiple Interventions for Community Health Nursing"*, organized by the University of Ottawa (Canada) and the Great Lakes University of Kisumu (Kenya)
Oct. 23, 2008	Attended Research and Policy Workshop organized by Ethiopian Nurses Association and Canadian Nurses Association
29 Sept. – 3 Oct. 2008	Completed Effective Teaching Skills Training organized by JHPIEGO
17 – 19 March 2008	Attended Advanced Research Methods Workshop for Demographers and Anthropologists organized by the Institute of Population Studies, Addis Ababa University and Bristol University, UK
10 – 11 May 2007	Participated in Consultative Workshop to review the draft National Pain Management Guideline organized by International Training & Education Center on HIV (I-TECH) in collaboration with Ministry of Health, HIV/AIDS Prevention and Control Office, and Drug Administration and Control Authority (DACA)
22 – 23 Jan. 2007	Participated on Palliative Care Curriculum Review and Development organized by International Training & Education Center on HIV (I-TECH) in collaboration with Drug Administration & Control Authority (DACA)
10 - 13 May 2004	Attended Essential Nutrition Actions Training course organized by the Ministry of Health & LINKAGES Ethiopia.
10 - 12 March 2004	Attended Training of Trainers (TOT) Course for Nurses on Antiretroviral Therapy organized by I-TECH/CDC Ethiopia & Ministry of Health.
5 - 18 February 2004	Served as a trainer on the Training of Home-Based Care Providers in HIV/AIDS organized by Save Your Generation Ethiopia.
3 - 16 November 2003	Attended Training on Strategic Planning and Management, Performance Management, and Change Management organized by the Ministry of Capacity Building & Ethiopian Management Institute.
30 Sept. - 10 Oct. 2003	Served as a trainer on the Training of Home-Based Care Providers & Community Counseling on HIV/AIDS organized by the Addis Ababa HIV/AIDS Prevention and Control Office.
19 Aug. - 8 Sept. 2003	Participated in Mid-Level Health Professionals Training Curriculum Development Taskforce organized by the Ethiopian Ministry of Education & Ministry of Health.
14 - 18 June 2003	Attended Training Workshop on Management of Sever Malnutrition organized by UNICEF - Ethiopia Country Office.

2 - 10 Sept. 2002	Attended Youth Focused Voluntary Testing and Counseling (VCT) Training organiz UNICEF & Addis Ababa HIV/AIDS Prevention and Control Office.
1 Feb. - 24 June 2002	Completed Basic Computer Training course offered by the African Virtual University.
7 - 8 April 2000	Attended Training Workshop for Instructors of Training Institutes on Harr Traditional Practices Affecting the Health of Women & Children organized National Committee for Traditional Practices in Ethiopia.
5 - 9 Aug. 1998	Attended Training Workshop on Treatment of Sever Malaria organized by Ethiopian Ministry of Health Department of Communicable Diseases Contr Prevention.
20 Apr. - 12 June 1998	Completed Teaching Methodology Course for Health Science Instructors organized by the Federal Ministry of Health Department of Health Services Health Personnel Training.

SCHOLARSHIPS, AWARDS, & PRIZES

- Channel Foundation's Native Leadership Scholarship 2004 – 2006
- University of Kuopio International Student Prize 2005
- University of Kuopio Scholarship for Graduate Students (Dec. 2005 – Feb. 2006)

PROFESSIONAL REGISTRATION

- Registered Chief Nurse Professional [in Ethiopia]

ASSOCIATION MEMBERSHIP

- Ethiopian Nurse Association
- Ethiopian Public Health Association

PROFESSIONAL & PUBLIC SERVICES

- Council Member of the Ethiopian Public Health Training Initiative (Nov. 2006 – Nov. 2008)

REFERENCES

- Will be provided upon request

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Declaration

I the undersigned, declare that this thesis is my original work, has never been presented in this or any other university, and that all resources and materials used herein, have been duly acknowledged.

Name: Tadesse Fikre (BSc, MSc Candidate)

Signature _____

Date _____

Place: Addis Ababa University, Ethiopia

This thesis has been submitted for examination with my approval as a University advisor.

Name: Ato Fekadu Aga (RN, MSc.)

Signature _____

Date _____