FACTORS DETERMINING ACCEPTANCE OF VOLUNTARY HIV TESTING AMONG PREGNANT WOMEN ATTENDING ANTENATAL CLINIC AT ARMED FORCE HOSPITALS IN ADDIS ABABA

BY

GETACHEW WORKU

A Thesis submitted to the School of Graduate Studies of Addis Ababa University in Partial Fulfillment of the Requirements for the Degree of Master in Public Health in Department of Community Health

ADVISOR: DR. FIKIRE ENQUOSELASSIE (M.Sc, PhD)

June, 2005
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Getachew worku, June 2005

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List of abbreviations

ANC –antenatal care.

AIDS –acquired immunodeficiency syndrome.

HIV –human immune-deficiency virus.

MCH- mother and child health care.

MTCT – mother to child transmission.

PMTCT –prevention of mother to child transmission.

UNAIDS –United nation program on AIDS.

VCT – Voluntary counseling and testing.

TASO- The AIDS support organization.

ABSTRACT

Back ground Mother-to-child transmission (MTCT) is by far the largest source of HIV infection in children below the age of 15 years. The virus may be transmitted during pregnancy child birth or breast feeding. Globally 2.7 million children under the age of 15 years have died of AIDS since the beginning of the epidemics. Over 9 in 10 were infected by their mothers. For many years little was known about preventing transmission of HIV infection from mother to child. Recently however, many interventions are available to reduce mother to child transmission, such as anti retroviral drug and avoidance of breast feeding. For women to take advantage of measures to reduce transmission, they need to know their HIV status. Despite this fact many women are not willing to take voluntary HIV counseling and testing.

Objective The main objective of the study is to identify factors determining acceptance of voluntary HIV testing among pregnant women at army hospitals in Addis Ababa.

Method Unmatched case control study was conducted on 88 acceptors and 176 non-acceptors of VCT using structured pretested questionnaire from December 2004 to January 2005, at army hospitals in Addis Ababa.

Results Among socio-demographic factors the odds of VCT acceptance was higher among better educated, married, with higher income women and among women whose husbands live at home. Women who had better knowledge of VCT and MTCT and women with at least two ANC visit had significantly higher VCT acceptance than their counterparts.

Adjusted for socio-demographic and some reproductive characters tics VCT acceptance was significantly associated with knowledge about MTCT (OR=7.34, 95% CI= 3.44, 15.67), previous VCT experience (OR= 2.51, 95% CI= 1.03, 6.17) and husbands residence (at home) (OR= 4.97, 95% CI = 2.15,11.46).

Conclusions and recommendation

Education of the mother, knowledge of MTCT and VCT and partner participation were important factors of VCT acceptance. Health education targeted on pregnant women on PMTCT and VCT would have paramount importance using different sources

Key words acceptance, HIV testing, pregnant women, antenatal care

1. Introduction

Knowledge about HIV /AIDS has been expanding in the past two decades, as has the number of infections globally. The routes of HIV spread are now firmly established, and includes sexual contact, transfusion of infected blood or blood product and mother to child transmission (MTCT). Infection among women of reproductive age is undoubtedly on the rise, which underlies the potential for an increasing number of prenatal HIV infections (1).

In 2003 an estimated 630,000 children worldwide become infected with HIV; the vast majority of them during pregnancy, child-birth or breast-feeding. Africa remains by far the region worst affected by the HIV epidemic. The HIV prevalence varies considerably across the continent ranging from less than 1% in Mauritania to almost 40% in Botswana and Swaziland. More than one in five pregnant women are HIV infected in most southern Africa countries, while else where in sub-Saharan Africa median HIV prevalence in antenatal clinics exceeds 10% (2).

In Ethiopia over 80% of the cases of HIV are found between the age of 20 and 49 years, the most economically active group of the population. Survey from the ministry of health showed that certain population groups are at risk more than others .Commercial sex workers, long distance truck drivers and the military were found to have been the most severely affected. In addition sero prevalence data based on ANC surveillance in Addis Ababa among 15-24 years pregnant women showed that HIV prevalence is about 11% in 2003 after having a peak at approximately 24% in 1995 (3).

The risk of acquiring the virus from an infected mother to baby ranges from 15% to 25% in industrialized countries compared to 25% to 35% in developing countries; largely due to breast feeding practice (4).

HIV counseling and testing has been shown to have a role in both HIV prevention and for people with HIV infection; as an entry point to care. VCT provides people with an opportunity to learn and accept about their serostatus in confidential environment. Pregnant women who are aware of their status can prevent transmission to their infant (MTCT) (5).

Previous studies have identified certain factors associated with acceptance of HIV testing including women's perceived risk of infection ,perceived benefit and knowledge of mother to child transmission (MTCT) etc (6).This study aims to assess determining factors associated with acceptance of prenatal HIV testing.

2. Literature Review

2.1. Over view of mother-to-child transmission (MTCT)

An estimated 2.1 million children world wide currently are living with the virus and over 630,000 children become infected with HIV in 2003, the vast majority of them acquire the virus during their mother's pregnancy, labour and delivery or as a result of breast feeding (2). Africa is the region seriously affected by HIV/AIDS epidemic. Of ten countries world wide with the greatest number of infected children, the top nine are all in Sub-Saharan Africa, Ranging from 140,000 in Ethiopia to 90,000 in Nigeria (7).

In most HIV infected mothers, HIV doesn't cross the placenta from mother to fetus and the placenta actually shields the fetus from HIV. This protection may break down, if a mother has viral, bacterial or parasitic placental infection during pregnancy. The greatest risk of becoming infected with HIV is during childbirth. During this single event between 10 and 20% will become infected by sucking, swallowing or aspiration of maternal blood or cervical secretion that contain HIV. Although the viral concentration in breast milk are significantly lower than those found in blood, on average about 15% of babies born to HIV infected mothers will become infected through sustained breast feeding (24 month or more) (8).

A study in women and infant, reported that a probability of 27% for inutero transmission in the USA, while in Kinshasa 23% infants were thought to be infected in utero, 65% intrapartum or early postpartum and 12% in late postpartum (9).

In low and middle income countries there is at least a 30% likelihood that an HIV positive breast feeding mother will pass the virus to her new born. From a study in Kenya and Malawi the absolute transmission rates from breast feeding were estimated to be 3.5% at 6 months, 7% at 12 months and 10.3% at 24 months (10).

The contribution of each of these routes to over all transmission has not been quantified exactly but it appears that in utero transmission is less frequently, and substantial proportion occurs at the time of delivery or late in pregnancy (9).

2.2. Prevalence of HIV infection among pregnant women

Southern Africa remains the worst affected region in the world. Data from antenatal clinics in urban area in 2002 showed that HIV prevalence of over 25% following a rapid increase from just 5% in 1990. In Swaziland the average prevalence among pregnant women was 39% in 2002 showing an increase from 34% in 2000 and only 4% in 1992. In Botswana antenatal prevalence has been sustained between 35 and 37% in the period 2001-2003 (11).

In Kenya, Malawi, Namibia, Rwanda, South Africa, the United Republic of Tanzania, Zambia, and Zimbabwe, over 10% of women attending antenatal clinic in urban areas were reported to be HIV positive, with a rate of almost 60% in some sites. In Thailand prevalence among women in antenatal clinics has climbed from 0% in 1989 to 2.3% in 1995 and continues to rise. Similar increases were reported from some Indian cities, Latin America and the Caribbean (9).

The prevalence of HIV infection among pregnant women in Ethiopia were found to be 17.8%, 17.5% and 15.1% in 1996, 1997 and 1999 respectively yielding an average of 16.8%. In urban Ethiopia the average prevalence of HIV among pregnant women are estimated to be 13% and in rural around 5% (4).

In some places HIV prevalence among pregnant women has shown a decline. The prevalence of HIV among pregnant women is high in most African countries even if it seems to decline in some parts of the region. In Addis Ababa, prevalence has fallen from a peak of 24% in 1995 to 11% in 2003 (11). In urban Uganda there has been a reported decrease in the prevalence of HIV infection, which is thought to be due to behavioral change following aggressive AIDS education (9).

2.3. Knowledge about HIV and MTCT

In a study investigating knowledge and awareness of HIV/ AIDS among pregnant women in Maharashtra State, (India) about 81% of the 269 study subjects heard about sickness called HIV or AIDS. When asked ways of spread 54% reported they did not know, 39% reported that sexual contact, 18% mentioned thorough injection, and 8% through blood, 4% mentioned commercial sex workers and only one person said from mother to child. The study reported that education played the most important role on the knowledge about HIV/AIDS (13).

Among antenatal care attending Ghanaian pregnant women at two polyclinics in Accra, less than 3% of them spontaneously mentioned MTCT as an HIV transmission route, when prompted. Majority of mothers agreed that the virus could be transmitted during pregnancy (94%), delivery

(91%), and breast feeding (86%). About 40% of the participants indicated that MTCT could not be prevented and another 14% did not know how to curtail MTCT (14).

The finding of the behavioral survey surveillance (BSS) Ethiopia 2002 about knowledge of mode of transmission of HIV, majority of the study participants mentioned unprotected sex and contaminated sharps. Only few youth participants mentioned mother-to-child transmission during pregnancy and breast feeding (19) .

A community based study on knowledge, attitude and practice (KAP) on HIV/AIDS in Gambella town, western Ethiopia, indicated only 4.5% of the participants reported that they didn't heard of HIV/AIDS. The commonly reported ways of transmission were unprotected sex (79.8%) and unsafe blood transfusion (64.2%) and less than 1 % reported that they know that HIV is transmitted from mother to child (15).

A community based study in Addis Ababa indicated every body has heared of HIV/AIDS. Every body knows it is transmitted sexually and through sharing contaminated cutting piercing instrument. Blood transfusion and mother-to-child transmission of the virus were mentioned by about a quarter of the informants both spontaneously and after probing. The study reported a gap in this area (16).

2.4. Acceptance of VCT among pregnant women

Knowledge of HIV status is a gateway to AIDS treatment and has documented prevention benefits, however the current reaching of HIV testing service is poor and up take is often low because of several factors (11).

According to the findings of behavioral surevellance survey (BSS, 2000), about 47% of the uniformed service respondents, 36% of bus drivers, 35% of minibus, 31% of commercial sex workers, 29% of youth, 11% of farmers and about 1.4% of the pastoralists reported that they knew the availability of VCT in their community. Regarding previous HIV testing experience very few of the study participants had HIV testing in the past, with the exception of uniformed service personnels (20%). In the other groups less than 11% had HIV testing in the past.

Majority of the respondents who had HIV testing in the past said the test was voluntary and, almost all study participants were willing to be tested in the future (19).

A cross-sectional mailing survey about acceptability of VCT and various MTCT interventions in antenatal clinics in 13 countries, it was reported that the median over all acceptability was 65% ranging from 33% to 95% (20).

In a study evaluated the acceptance of VCT by pregnant women in 14 urban sites in Africa and Thailand in 1997, the acceptance rate of VCT were high; median being 92% ranging from 77 to 99.7%. Over all acceptability of VCT (i.e. women coming for both test and result) was about 69%. The most common reasons to refuse testing were need to discuss with partner, fear of HIV positive status, and fear of loss of marital security, domestic violence and confidentiality. The study has also reported that better-educated women refuse to test more often than others (21).

A study form Zambia examined the readiness to utilize VCT service offered to 4812 participants from rural and urban sites. Although 37% initially expressed willingness to use VCT service, only 3.6% actually come for VCT. In Zimbabwe 186 women attending an antenatal care were

offered VCT as part of their antenatal care, although most women endorsed the multiple benefit of VCT, up take was low, with only 23% of women consenting to VCT (20). Preliminary result from a large MTCT program in Botswana shows a relatively low uptake of VCT during the first eight months of operation (20).

A community based study conducted in Addis Ababa to assess factors influencing the use of VCT service revealed that the majority of the respondents expressed their intention to test but the practice was non-existent(16). Another community based study in Harar among 15-49 years showed that 85% 0f the respondents have intention of having VCT (17). A much higher level of (92%) of intention to use the service was reported from a study conducted in Dire Dawa (18).

Although VCT during pregnancy is acceptable in principle, much will have to be done to increase the utilization of the service.

2.5. Impacts of voluntary HIV counseling and testing.

The primary aim of VCT is preventive, to help people change their sexual behavior, so as to avoid transmitting HIV to sexual partner if seropositive, or to remain seronegetive if negative. Many studies showed change in reported sexual behavior following HIV testing (20).

A study from TASO counseling service showed a good understanding of safer sex and higher level of safer sex behaviour following VCT. Among seropostive people 56% of females and 20% of males responded they were abstained, and 26% of females and 48% of males said they used

condoms .Of those who said they were using condoms 81.3% said that they had done so after counseling (20).

In most recent evaluation of TASO 12,120 records of clients attending VCT between 1997-1999, condom use increased from 23 to 41% for women and 20 to 49% for men following VCT. Further increase in condom use were seen in people who had further post-test counseling session (20).

Another study from Kara counseling service in Zambia, demonstrated some change in sexual behavior following VCT. Following VCT both those HIV seropostive and sero negative were more likely to use condom and reduced their number of casual sexual partners, when compared with reported behaviour prior to testing (20) .

A multi-center VCT efficacy study in the United Republic of Tanzania, Kenya, Trinidad and Tobago among (3,120 and 1,534 males and 1,586 females) randomized to receive either health information or VCT showed that the percentage of individuals reported unprotected sex declined Significantly. In those receiving VCT than those receiving health information only. The reduction were 35% in VCT group compared to 13% in health information group among males; and 39% in VCT group compared to 17% reduction in health information group among females (20).

2.6. Rationale of the study

Mother-to-child transmission (MTCT) is by far the largest source of HIV infection in children below the age of 15 years. The virus may be transmitted during pregnancy, childbirth, or breast-feeding (1). So far, globally 2.7 million children under the age of 15 have died of AIDS since the beginning of the epidemics. Over 9 in 10 acquire the infection from their mothers at birth or during breast feeding (22).

AIDS threatens to reverse year of steady progress in child health and survival and has already doubled infant mortality in the worst affected countries. In Sub Saharan Africa MTCT is contributing substantially to rising child mortality. In Ethiopia an estimated of 120,000 children under the age of 15 years living with the virus in 2004 (11).

For many years, little was known about preventing transmission of HIV infection from mother to child. Recently however many advances have been made in developing effective and affordable intervention that reduce the likelihood that a woman will pass HIV on her baby (2). The two most important interventions for the reduction of MTCT namely avoidance of breastfeeding and anti retroviral programs, requires a woman to know whether or not she is HIV infected in order to benefit from these interventions and other advantage of VCT (23).

The risk of HIV transmission from an infected mother to her child can be reduced by 50% by giving antiretroviral drug during pregnancy and labour and by avoiding breast-feeding. In the absence of preventive measures, the risk of a baby acquiring the virus from an infected mother ranges from 25% to 35% in developing countries (12,5).

Voluntary HIV counseling and testing (VCT) for pregnant women is a starting point for instituting a mother to child transmission (MTCT) prevention program. This strategy promotes adequate treatment for HIV positive women and has a positive impact on mother-to-child (MTCT) HIV transmission rate. For HIV negative women it provides opportunity for education and behavioral change (10, 11). But experience to-date in many countries show great variation in willingness to make use of the service that are available (23).

Many, but not all women accept VCT. The services have been slow to gain acceptance. There are many reasons why a woman may refuse VCT and understanding of those factors could help intervention design to promote VCT among pregnant women (24).

This study is therefore designed primarily to identify the factors determining acceptance of voluntary HIV testing among pregnant women attending antenatal care. The result would be useful in helping health care providers to introduce measures that could improve the utilization of antenatal HIV testing.

3. OBJECTIVES OF THE STUDY

3.1. General objective

- To identify factors determining acceptance of voluntary HIV testing, among pregnant women attending antenatal care at Armed Force hospitals in Addis Ababa.

3.2. Specific objectives

- To assess some of the demographic factors among acceptors and non-acceptors of HIV testing.
-
- To compare knowledge about HIV, MTCT, AND PMTCT among acceptors and non-acceptors of HIV testing.
- To assess some of the factors associated with acceptance of voluntary HIV testing among pregnant women.
- Based on the study finding to forward recommendation for policy makers and service providers.

4. Materials and Method

4.1. Study Area

The study area were two army hospitals located in the capital Addis Ababa which serve as a referral hospital to all army health institutions through out the country, the two hospitals provide different services including HIV VCT service to the army members, to civilian working in the army and their families .The maternal and child health care unit (MCH) provides PMTCT service to pregnant women attending antenatal care free of charge, it includes antenatal, intrapartum and postnatal care, family planning and STI service, voluntary confidential counseling and testing, anti-retroviral drug therapy for prevention of MTCT and pre and post test counseling .The service was started in April 2004 with six counselors in the two institution ; to date more than one thousand pregnant women were counseled and about 400 tested for HIV

4.2. Study design:

The study design was unmatched case-control.

Cases: - Antenatal care followers counseled and tested for HIV in the current pregnancy, prior to and during the study period.

Controls**: -** Antenatal care followers counseled but not tested for HIV in the current pregnancy, prior to and during the study period.

Inclusion Criteria

Pregnant mother who had voluntary HIV counseling in the current pregnancy.

Those pregnant women who had HIV counseling in the two hospitals.

Those pregnant women are above 18 years old.

Exclusion criteria

Those pregnant women who don't have HIV counseling

Those who had received HIV VCT elsewhere

Those who refuse to participate

Those below 18 year old and

Those who are unable to communicate for different reasons.

4.3. Sample Size

Sample size was determined using the formula for the difference between two population proportions by considering one variable assumed to bring difference in the two groups.

$$n_1 = \frac{\left(z \alpha/2 \sqrt{(1 + 1/r)\, p\,(1-p)} + Z\beta \sqrt{p_1(1-p_1) + p_2(1-p_2)} \right)^2}{(P1-p2)^2}$$

Where n_1=the sample size for case

$z\alpha/2$=critical value =1.96

$z\beta$ =power of the study = 80%

p_1 = estimated exposure among cases

p_2 = estimated exposure among control

p = pooled estimate of p_1 and p_2

r = ratio of n_2 to n_1

In this study education was the variable used to calculate the sample size with an estimated exposure among cases 60% and 40% among controls with 5% marginal error and 95% confidence interval. Two controls were taken for each case to increase the power of the study. Accordingly 88 cases and 176 controls were needed.

4. 4. Sampling procedure

Study subjects were pregnant women attending army hospitals mother and child health care (MCH) unit, for antenatal care follow up who had voluntary HIV counseling irrespective of their testing. Subjects were identified based on the information obtained from the client card and the clients information about whether they were tested or not. This study had two groups of subjects, the first group includes pregnant women who were tested for HIV in the current pregnancy, and the second comprise pregnant women who refuse HIV testing in the current pregnancy. Cases and controls were selected from both hospitals consecutively. Two controls were selected, consecutively immediately after one case is identified and interviewed. The procedure continued through out the data collection period until the required sample size was achieved

4. 5. Data Collection Procedure.

Data was collected from study subjects, using pre-tested structured questionnaire .The questionnaire was developed in English and translated to Amharic and then back to English to check for its consistency.

Four data collectors and two supervisors who have diploma, and who can speak Amharic and English language were recruited. The interviewers were nurses working in the MCH unit of the two hospitals and, there were two supervisors one working as general nurse from other institution and the second supervisor a diploma holder working at the VCT center of Armed force general hospital. The responsibility of the data collectors was to fill questionnaires

after obtaining verbal consent of the subjects. The supervisors provide all items necessary for data collection on each data collection day, checking filled questionnaire for completeness, solve problems raised during data collection.

Data collection was done at one corner of the MCH unit after a woman has completed the antenatal follow up examination.

To assure the quality of the data, properly designed data collocation tool was prepared, training were given to data collectors and supervisor, and on each data collection day some percent of the collected data reviewed by principal investigator, any problem faced in the time of data collection discussed and immediate solution were made.

4.6. Study Variables

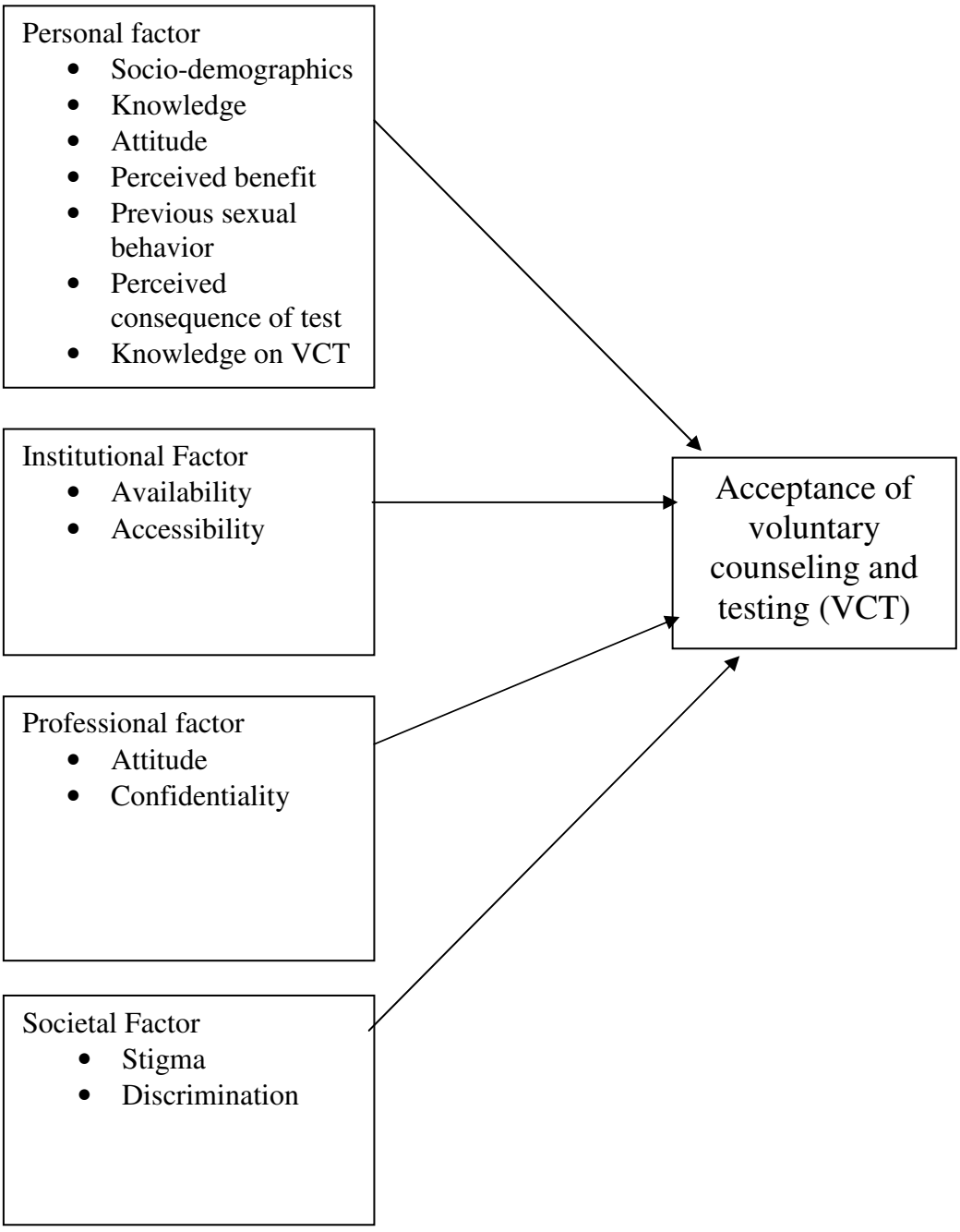
4.6.1. Dependent variable

- Acceptance of voluntary HIV testing

4.6.2. Independent variables

- Age
- Educational status
- Partners residence
- Marital status
- Income
- Religion
- Ethnicity
- Number of pregnancy
- Number of ANC visits
- Knowledge about HIV , MTCT and VCT
- Perceived benefit of VCT
- Perceived risk of HIV

4. 6. 3. Conceptual framework of Voluntary Counseling and Testing (VCT)



4.7. Operational Definition

- Acceptance of VCT: - Voluntary uptake of HIV testing by pregnant women after counseling.
- Acceptors:-Pregnant women who had HIV counseling and testing in the current pregnancy.
- Non-acceptors:-Pregnant women who had HIV counseling and refuse to take the test during the current pregnancy.
- HIV Counseling:-a confidential dialogue between a person and care provider aimed at enabling the person to cope with stress and make personal decision to take the test.
- Voluntary HIV testing: - a process of voluntary HIV testing after informed consent.
- Knowledge: - Information stored in the memory related to HIV /AIDS and Mother to Child Transmission.
- Attitude: - Predisposition to respond in favorable or unfavorable manner towards HIV/AIDS and VCT.
- Perceived benefit: - out come expectation from taking HIV test.
- Risk perception for HIV/AIDS:- Respondents feeling of vulnerability for HIV/AIDS.

4.8. Data Entry and Analysis

The data obtained from each study participant cleaned, edited and data was entered and analyzed using the epinfo and SPSS computer soft ware packages. Frequency distribution and cross tabulation were made for the variables, odds ratio and 95% confidence interval calculated.

4.9. Ethical consideration

Ethical clearance to conduct the study obtained from Addis Ababa University, medical faculty and permission to conduct the study in the army hospitals secured from the respective hospitals. Informed consent from each study subjects were obtained after clear explanation about the purpose of the study. Confidentiality of the information assured by omitting names of study

subjects from the questionnaire and maximum effort made to maintain privacy of the respondent during the interview. No question was asked about their serostatus and information was provided on the benefit of knowing their serostatus and about availability of drugs and intervention that reduce the risk of mother to child transmission of HIV infection for those mothers who refuse to take the test .The data collection procedure was not harmful to study participants and data collectors.

5. Results

A total of 264 pregnant women attending antenatal clinics were included in the study. Among the studied women 88 were voluntary acceptors of HIV counseling and testing (cases), and 176 were non-acceptors of voluntary HIV testing (controls).

Majority of the acceptors as well as non-acceptors of HIV testing were between 20 and 29 years. The median age of women among acceptors was 25.7 years and 26.2 years for non-acceptor. Majority of the study subjects were married, (99.7% of acceptors and 88.1% of non-acceptors). About 84.9% of acceptors and 43.2% of non-acceptors lived with their husbands. Almost equal proportion of acceptors and non-acceptors of voluntary HIV testing were unemployed (72.9% vs. 76.5% for acceptors and non-acceptors respectively). Amhara ethnic group comprises the largest proportion of the study subjects (47.7% vs. 36.4%), followed by Tigrie (27.3% vs. 33.5%) and Oromo (15.9% vs. 22.1%) for acceptors and non-acceptors of HIV testing respectively. (Table1)

Table 1 also shows that more than 80% of acceptors and non-acceptors respectively were followers of orthodox Christian religion.

Table 1. Socio-demographic Characteristics of Acceptors and Non-Acceptors of VCT among pregnant women following ANC at Armed Force Hospitals in Addis Ababa, 2005

Variables	Acceptors(n=88)		Non-acceptors(n=176)	
	no	%	no	%
Age				
< 20 years	7	8.0	14	8.0
20-29 years	59	67.0	120	68.1
30-39 years	22	25.0	42	23.9
Ethnic group				
Oromo	14	15.9	39	22.9
Amhara	42	47.7	64	36.4
Tigrie	24	27.3	59	33.5
Others	8	9.1	14	22.0
Religion				
Orthodox	72	81.8	143	81.3
Muslim	5	5.7	15	8.5
Catholic	1	1.1	5	2.8
Protestant	10	11.4	13	7.4
Marital status				
Married	86	97.7	155	88.1
Unmarried	2	2.3	21	119
Education level				
Illiterate	5	5.7	26	14.8
Read & write	6	6.8	10	5.9
Primary	27	30.7	69	39.2
Secondary	32	36.4	52	29.5
Tertiary	18	20.5	19	10.8
Occupation				
Employed	24	27.3	43	24.4
Unemployed	64	72.9	133	75.6
Income				
≤ 450 Birr	14	15.9	63	35.8
> 450 Birr	69	78.4	108	61.4
Residence of Husband				
At Home	73	84.9	67	43.2
Another Place	13	15.1	88	56.8

Prior HIV testing had been performed by 27.3% of acceptors and 15.3% of non-acceptors of VCT, but there is no difference in socio-demographic characteristics of acceptors and non-acceptors of the test. There was lower level of perceived risk to HIV/AIDS in both groups (34.1% for acceptors and 29.6% for non-acceptors of VCT). On the other hand 92.0% of acceptors and 79.5 of non-acceptors of VCT perceived the benefit of the test to mother and baby. (Table 2)

As shown in Table 2 about 38.6% of acceptors and 33.5% of non-acceptors had two pregnancies including the current one. Most women, (86.4% of acceptors and 69.9% of non-acceptors) had at least two antenatal visits during the current pregnancy.

Table 2 .Some reproductive characterstic, perceived risk and benefit of acceptors and non-acceptors of VCT among pregnant women attending ANC at Armed Force Hospitals in Addis Ababa, 2005.

Reproductive characteristic	Acceptors(n=88) Number	%	Non-acceptors(n=176) Number	%
No of pregnancy				
One	26	29.5	57	32.4
Two	34	38.5	59	33.5
Three	17	19.3	37	21.0
≥ Four	11	12.5	23	13.1
No ANC visits				
At least two	76	86.4	123	69.9
Less than two	12	13.6	53	30.1
Prior HIV testing				
Yes	24	27.3	27	15.3
No	64	72.2	149	84.7
Self perceived risk				
Yes	28	34.1	50	26.9
No	54	65.9	119	70.4
Perceived benefit				
Yes	81	92.0	139	79.0
No	7	8.0	37	21.0

As shown in Table 3 about 99% of the acceptors and 97% of non-acceptors mentioned sexual contact, 75% of acceptors and 85% of non-acceptors mentioned that contaminated blood and blood product and 86% of acceptors and 88% of non-acceptors contaminated sharps as a main route of HIV transmission respectively. MTCT was mentioned by relatively lower proportion of acceptors and non-acceptors of VCT (77% and 37% respectively).

About the time when MTCT could occur, most acceptors and non-acceptors of VCT mentioned transmission of the virus during delivery and breast-feeding. Lower proportion of acceptors (39%) and non-acceptors (25%) mentioned that MTCT occur during pregnancy. Regarding to intervention to reduce MTCT, about 95% of acceptors and 84.1% non-acceptors mentioned that they know about intervention that reduce MTCT. (Table 3).

When asked questions on how to reduce the risk of MTCT, 92% of acceptors and 77% of non-acceptors mentioned use of antiretroviral drug and 39% of acceptors and 22% of non-acceptors mentioned avoidance of breast-feeding as a means of reducing MTCT. (Table 3)

Table 3. Knowledge of respondents on HIV, MTCT & PMTCT, among pregnant Women attending ANC at Armed Force Hospitals in Addis Ababa, 2005.

knowledge Variables	Acceptors(88)		Non-acceptors(176)	
	no	%	no	%
Correctly identify route of transmission				
Sexual contact	87	98.9	171	97.2
Blood /blood product	66	75.0	149	84.7
MTCT	68	77.3	66	37.5
Contaminated sharps	76	86.4	156	88.6
Correctly indicated when MTCT could occur				
During pregnancy	34	38.6	44	25.0
During Delivery	73	83.0	127	72.2
Breast feeding	84	95.5	161	91.5
Awareness of preventive measures of PMTCT				
Use of antiretroviral drug	81	92.0	137	77.8
Avoid breast feeding	34	38.6	39	22.2

Almost all acceptors and non-acceptors knew or heard about the existence and importance of voluntary HIV counseling and testing service during pregnancy. About 94.3% acceptors and 79.5% non-acceptors of voluntary HIV testing heard the information from health institution, 67% and 68.1% from mass media and about 15.9% and 8.0% from friends and neighbors. (Table4)

Table 4. Source of information on HIV and VCT among pregnant women attending ANC at Armed force hospitals in Addis Ababa, 2005

Means of information access	Acceptors(n=88)		Non-acceptors(n=176)	
	Number	%	Number	%
Mass media (radio, TV etc)	59	67.0	120	68.1
Health institution	83	94.3	140	79.5
Friends & neighbors	14	15.9	14	8.0

Table 5 shows socio-demographic factors associated with voluntary acceptance of HIV antibody testing. Acceptance of VCT was slightly higher in the older age group 30-39 years compared to younger ages, but was not statistically significant.

Married women were more likely to accept VCT compared to those who were not married (OR=5.83, 95% CI=1.25, 36.38). Similarly among married women those who were living with their husbands were more likely to be tested compared to those whose partners lived away (OR=7.38, 95% CI=3.65, 15.23).

As shown in table 5, the odds of accepting VCT significantly increased with an education level. Women with secondary and tertiary education were 3-5 times more likely to accept VCT than those who were illiterate and with primary education .The odds of VCT acceptance was also higher in the higher income group (OR= 2.88, 95% CI= 1.43,5.84).

Other variables like religion and ethnic group of the mother were not found associated with the acceptance of voluntary HIV testing

Table 5. Socio-demographic factors associated with acceptance of VCT among pregnant women following ANC at Army hospitals in Addis Ababa, 2005.

Variables	Acceptors(n=88) Number	Non-acceptors(n=176) Number	Crude OR	95% CI
Age				
< 20 years	7	14	0.91	0.28,2.89
20-29 years	59	120	0.89	0.47,1.71
30-39 years	22	40	1.00	
Marital status				
Unmarried	2	21	1.00	
Married	86	155	5.83	1.25,36.86
Husbands Residence				
With wife (at home)	73	67	7.38	3.61,15.23
Another place	13	88	1.00	
Level of education				
Illiterate	5	26	1.00	
Read and write	6	10	3.12	0.64,15.78
Primary	27	69	2.03	0.63,6.76
Secondary	32	52	3.20	1.03,10.89
Tertiary	18	19	4.93	1.38,18.81
Income				
≤ 450 Birr	14	63	1.00	
> 450 Birr	69	108	2.88	1.43,5.84

As shown on table 6 the number of antenatal visits attended by mothers were also analyze to look for association of antenatal visit and acceptance of VCT. Women who attended at least two antenatal visits were more likely to take the test compared to those mother who attended less than two visit (OR=2.73, 95% CI=1.13,5.78).

The women were also compared with respect to their previous HIV testing experience. Mothers who had HIV testing in the past for different reasons were about 2 times more likely to accept voluntary HIV testing in the current pregnancy compared to their counter parts (OR= 2.01, 95% CI=1.03, 3.95).(Table 6)

Women who knew existence of intervention that reduce the risk of MTCT of HIV infection were also about 3 times more likely to practice VCT compared to those who were not (OR=3.26, 95 CI= 1.02,11.55). Those women who perceived the test beneficial to women and her baby were also 3 times more likely to be tested (OR=3.01, 95% CI=1.24, 7.96) (Table 6).

Table 6.Reproductive and related factors associated with VCT among pregnant women Following ANC at Army hospitals in Addis Ababa, 2005.

Variables	Acceptors(n=88) Number	Non-acceptors(n=176) Number	Crude OR	95% CI
No of pregnancy				
One	26	57	0.95	0.37,2.45
Two	34	59	1.20	0.49,3.02
Three	17	37	0.96	0.35,2.65
≥ Four	11	23	1.00	
No of ANC visits				
At least two	76	123	2.73	1.31,5.78
Less than two	12	53	1.00	
Prior HIV testing				
Yes	24	27	2.01	1.03,3.95
No	64	149	1.00	
Self perceived risk				
Yes	28	50	1.23	0.68,2.25
No	54	119	1.00	
Perceived benefit VCT to mother and baby				
Yes	81	139	3.08	1.24,7.96
No	7	37	1.00	
Know existence of intervention that reduce MTCT				
Yes	84	148	3.26	1..24,7.96
No	4	28	1.00	

Study participants were also assessed about their knowledge of 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 mention means of transmission of HIV like sexual intercourse ,blood and blood product ,contaminated sharp instruments & mother to child transmission (MTCT), but the proportion of women who indicated MTCT was higher among women who were tested (77.2%) as compared to those who were not tested (37.5%) the difference being statistically significant [P.<0.001].

Mothers who said MTCT could occur during pregnancy were about 1.8 times more likely to be tested (OR=1.89, 95% CI =1.05, 3.39) , and those who said avoidance of breast feeding as a means of intervention to reduce MTCT were about 2 times more likely to accept the test than those who didn't (OR=1.90, 95% CI=1.06, 3.49).

Table 7. Acceptors and non-acceptors of HIV testing by their knowledge on HIV, MTCT and PMTCT, Armed force hospitals in Addis Ababa, 2005.

Variables	Acceptors(n=88) Number	Non-acceptors(176) Number	Crude OR	95%CI
Correctly identify route of transmission				
Sexual contact				
YES	86	171	1.26	0.24,6.61
NO	2	5	1.00	
Blood /blood product				
YES	66	149	0.58	0.31,1.09
NO	22	29	1.00	
MTCT				
YES	68	66	5.67	3.04,10.63
NO	20	110		
Correctly indicated when MTCT could occur				
During pregnancy				
YES	34	44	1.89	1.05,3.39
NO	54	132	1.00	
During Delivery				
YES	73	127	1.88	0.94,3.78
NO	15	49	1.00	
Breast feeding				
YES	84	161	1.96	0.58,7.22
NO	4	15	1.00	
Awareness of preventive measures of PMTCT				
Use of antiretroviral drug				
YES	81	137	1.63	0.54,10.1
NO	3	11	1.00	
Avoid breast feeding				
YES	34	39	1.90	1.06,3.49
NO	50	109		

Variables like education, marital status, residence of the husband, income, number of antenatal visits, prior HIV testing, awareness of intervention that reduce MTCT, knowing MTCT as route of HIV transmission, and perceived benefit of the test were entered for multivariate analysis . 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 lived with their husbands were about 5 times more likely to be tested than those whose husband lived 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).(Table 8)

As showen on table 8 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.

Table 8. Adjusted determinant factors of accepting VCT among pregnant women following ANC, at army hospitals in Addis Ababa, 2005.

Variables	Acceptors(n=88)	Non-acceptors(n=176)	Adj.OR	95% CI
	Number	Number		
Husbands residence				
At home	73	67	4.97	2.15,11.46
Another place	13	88	1.00	
Prior HIV testing				
Yes	24	27	2.51	1.03,6.17
No	64	149	1.00	
Know MTCT as route of HIV transmission				
Yes	68	66	7.34	3.44,15.67
No	20	110	1.00	

6. Discussion

Nowadays antiretroviral drugs for prevention of mother to child transmission (MTCT) of HIV infection become available in developing countries. For a pregnant mother to benefit from this intervention, she needs to know her serostatus. Voluntary HIV counseling and testing (VCT) provides an opportunity to know her status and serve as an entry point to make decision on use of the intervention to reduce mother-to-child transmission of HIV infection.

Our study shows that higher level of education (secondary and tertiary) of the mother strongly associated with acceptance of voluntary HIV testing. 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 (1). Another study conducted in urban and rural areas in Zambia, reported that HIV test rate increases with increasing educational attainment, about three to four times higher when contrasting the two extreme levels of education (25). Also a study conducted in Zambia showed in the more educated, the higher the HIV test rate, the odds ratio between the two most extreme level of education (<8 years vs.. >12 years of schooling) was (OR=3.4, 95% CI, 1.33, 8.83) (26). But 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 (27). The association of acceptance of testing and education can be explained by the fact that educated mothers are better in assessing the advantage of testing and may be aware of the benefits of the test and treatment options that reduce mother to child transmission of HIV infection.

This study also revealed that income is associated with acceptance of HIV testing, in our data set this can be seen in the increasing testing with increasing income of the household. This finding,

however, disagree with a study from Tanzania, that showed association of higher socio-economic status with significant increasing refusal of HIV testing (27). In a study among Rwandans showed that women whose partners had well-paid job were about four times more likely than their counterparts to accept HIV testing (6).

The analysis of marital status and acceptance of voluntary HIV testing showed that married women were more likely to be tested than unmarried women (OR=5.83,P. <0.01). This finding is not supported by findings of other studies. A study from Tanzania showed women cohabitating while unmarried were significantly more likely to be tested than married mothers (P=0.03) (27). 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 are more confident that they are at less risk compared to unmarried because of their committed marriage.

Our results showed that pregnant women who were living with their husbands were significantly more likely to be tested than those pregnant women whose husbands lived another place for various reasons. Adjusted for other demographic and reproductive characteristics, on multivariate analysis partner at home was significantly and independently associated with VCT acceptance. A study which assessed effect of partner involvement and couple counseling on the uptake of intervention to prevent HIV transmission among women attending antenatal clinic in Nairobi, reported that the importance of partner participation as a significant factor for VCT. (29).
Also a study conducted in India reported that about 46% of the women mentioned their husband as a primary decision maker in issues like voluntary HIV counseling and testing (32). The

possible explanation for association between husbands residence and acceptance of prenatal HIV testing may be women who are living with their husbands are more likely to discuss the issue of voluntary HIV counseling and testing, decide whether to be tested or not. Moreover they may have their husbands support and even the possibility for the couples to take VCT, unlike those pregnant women whose partner live away.

In this study less proportion of the study subjects consider themselves to be at risk of getting HIV/AIDS (34.% for acceptors and 29.6% for non-acceptors of HIV testing). Similar finding were reported from studies conducted in Dire Dawa among pregnant women, which was about 24.8% (18). A community based studies conducted in Assossa on acceptability of voluntary counseling and testing and in another study conducted in three sites(Addis Ababa, Arsi, and Debre Berhan)on perception of risk and vulnerability to HIV/AIDS reported similar finding.(33,34)Perceived risk of getting HIV was not found associated with acceptance of HIV testing.

This study showed pregnant women who had HIV testing in the past were twice more likely to be tested than those women who had no prior HIV testing experience. When adjusted for other variables prior HIV testing experience was independently and significantly associated with VCT acceptance. This finding was also reported by other studies. A study conducted in Zambia indicated that having HIV test in the past was an independent factor positively influencing readiness for testing (26), and a study from Barbados showed women who had had a prior HIV test were less likely to refuse HIV testing during the current pregnancy when compared to women who had no prior HIV testing (28). The possible explanation for association between prvious testing and current one is that women who had HIV testing in the past are more likely to

have change in their sexual behaviour after knowing their serostatus. This was showen by studies that assessed behavioral change following HIV VCT . As a result women who were tested in the past are more likely to take the test considering their previous test result and and the change in their sexual behaviour and thinking the out come of the current test to be negative.

Unlike the studies conducted in Zambia and Tanzania in this study age of the mother was not found associated with the acceptance of HIV testing. A study done in Zambia showed test rate were lowest among adolescents, while a study in Tanzania indicated old age were associated with decreased screening acceptance, which is also inconsistent with previous studies that showed association of old age with both decreased and increased test acceptance (25,27).

Our finding on the association of knowledge of existence of intervention that reduces mother- to-child transmission of HIV and acceptance of voluntary HIV testing agree with findings from other studies. In our study pregnant women who know existence of intervention that reduce mother-to-child of HIV were about 3.2 times more likely to be tested than those who were not aware of intervention to reduce MTCT. In two other studies knowledge about treatment that reduces mother-to-child transmission of HIV was found independently associated with testing. A study conducted in the USA to determine whether the knowledge of Zidovudine treatment to reduce the risk of MTCT showed increase of the likelihood of HIV testing among pregnant women of child bearing age and among pregnant women receiving prenatal care. Majority of the study participant from both surveys reported that they were more likely to take a test for HIV knowing about Zidovudine treatment (31).

In this study there was no association between number of pregnancy a woman had, including the current one, and acceptance of voluntary prenatal HIV testing. This finding is consistent with a

study conducted in Rwanda (6). The finding of this study also showed significant association between the number of antenatal visit and acceptance of prenatal HIV testing. Mothers who had two or more antenatal visits were more likely to be tested than those who had less visits (P=0.01). This association between number of antenatal visit and acceptance of prenatal HIV testing may be explained by frequent exposure of mothers to information regarding HIV, MTCT and PMTCT during their follow up, which may influence the mother to take the test.

This study showed that perceived benefit of HIV testing was found to be significantly associated with the acceptance of prenatal HIV testing (OR=3.08), similar to the study conducted in Hong Kong (1).

In our study knowledge of mother-to-child transmission 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 VCT. When adjusted for other factors the association between knowledge of MTCT and VCT acceptance was even stronger (OR= 7.34, 95% CI= 3.44, 15.67). Similar findings were also reported by a study from South Africa (30).

Almost all pregnant women in this study heard about VCT from different information sources, but the source of information was not found associated with acceptance of VCT. In a study conducted in Hong Kong acceptance of HIV testing was strongly associated with access to information, that reported pregnant women who got information from one or two source were about 4 times more likely to accept the test than those who had no access to information, and those who had from three or more sources were associated with even higher acceptance (1).

7. Strength and limitation of the study

Strength

There was no study conducted using case control study design in this institution or other institution, and this study will provide information or clue to similar studies that are going to be conducted in the future. Multiple logistic regression was done to control the effect of the variables in the study.

Limitation

The limitation of this study were small sample size of the study participants and generalizability of the study, besides there was no local or a study from Africa using case control study design for comparison.

8. Conclusion and recommendation

8.1 Conclusion

Our study which was conducted among pregnant women attending antenatal care in two army hospitals to determine factors associated with acceptance of antenatal HIV testing has reached to the following conclusions.

- Women who had secondary and tertiary education are more likely to accept VCT, than those who are illiterate or with primary education.
- Pregnant mothers who are married and live with their partners (husbands) are more likely to accept HIV testing.
- Pregnant mothers, who had prior HIV testing, accept antenatal HIV testing than those mothers who had no prior testing.
- Pregnant women who knew existence of intervention that reduce MTCT and acknowledge benefits of VCT are more likely to take antenatal HIV testing.
- Pregnant women who knew MTCT as route of HIV transmission, and those who mentioned avoidance of breast feeding as a means of PMTCT are more likely to take prenatal HIV testing.
- Adjusted for demographic and some reproductive characteristics, women whose husbands live at home, who had better knowledge of MTCT and those who had prior VCT experience were more likely to undertake VCT than their counterparts.

8.2 Recommendation

-Based on the finding of this study we recommend on the need for intensive and continued education, to both pregnant mother and their partners, about prenatal HIV transmission, the role of voluntary HIV counseling and testing (VCT) 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, with especial emphasis to those couples who live apart, due to the nature of their job (eg.military).

-The use of various means of information to access for all the target population is also recommended.

-Increasing women education to the highest possible level

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ANNEX 1

ADDIS ABABA UNIVERISITY MEDICAL FACULTY
DEPARTMENT OF COMMUNITY HEALTH

QUESTIONNAIRE

Factors determining acceptance of voluntary HIV testing among pregnant women attending antenatal clinics at army hospitals in Addis Ababa.

01-Site _____
02-Study participants
1. VCT acceptors
2. VCT non acceptors

Introduction

My name is _____ I am interviewing pregnant women attending antenatal clinic at_____ (name of institution) about factors affecting acceptance of voluntary HIV testing among pregnant women.

The interview should be conducted after a women passes through the process of voluntary counseling whether she accept HIV testing or not.

I am going to ask you some question about voluntary HIV counseling and testing, your responses are completely confidential; your name will not be written on the form and will never be used in connection with any of the information you provide. You don't have to answer any question you don't want to answer, however your honest answer to this question will help us to understand factors affecting acceptance of voluntary HIV counseling and testing .We would like to thank you in advance for your help, are you willing to participate.

If yes-(1) continue
No-(2) stop

03-Result code 1.completed
2. Refused
3 .partially completed
4. Other

Interviewer signature certifying that informed consent has been given verbally.

Interviewer name _____ Signature_____
Date of interview_____

Checked by supervisor

Name_____
Signature_____
Date_____

Section I : Back ground characteristics

Sr. no	Question	Coding categories	skip	code
101	How old are you?	• 19 years old or less 1 • 20-29 years 2 • 30-39 years 3 • 40 years& above 4		
102	To which ethnic group/tribe do you belong?	• Amahara 1 • Oromo 2 • Tigire 3 • Other		
103	What religion are you?	• Orthodox 1 • Muslim 2 • Catholic 3 • Protestant 4 • Other 5		
104	Have you ever attended school?	• Yes 1 • No 2 →	105	
105	What is the highest level of school you completed	• Literate(read & write) 1 • Primary 2 • Secondary 3 • Tertiary (above 12) 4		
106	What is your occupation?	• Employed 1 • Jobless 2 • Student 3 • Other (specify)_____ 4		
107	Family income per month	• <200 birr 1 • 200- 450 birr 2 • 450 birr & above 3 • Not known correctly 5		
108	Marital status	• Unmarried 1 • Married 2 →	109	
109	If married are you currently living with your partner?	• yes 1 • no 2		
110	Number of pregnancy including the current one	• One 1 • Two 2 • Three 3 • four & above 4		
111	The number of antenatal care visit attended in the current pregnancy	• At least two 1 • Less than two 2		

Section II: knowledge and attitude towards HIV, MTCT and PMTCT

No	Question	Coding categories	skip	Code
201	Have you ever heard of HIV or disease called AIDS?	• Yes 1 • No 2 • I don't know 88 • No response 99		
202	Do you know how HIV is transmitted?	-Yes 1 ⟶ -No 2 -No response 99	203	
203	If the answer is yes to question number 202 mention the route of transmission?	• Sexual intercourse 1 • Infected blood 2 • By sharing sharps 3 • Mother to child 4 • Injection by unsterile needle 5 • Other (specify) _____ 6		
204	Can HIV/AIDS be cured?	• Yes 1 • No 2 • I don't know 88 • No response 99		
205	Can a pregnant woman with HIV or AIDS transits the virus to her unborn baby?	• Yes 1 • No 2 • I don't know 88 • No response 99		
206	When do you think an HIV positive pregnant women transmit the virus to her baby? Circle more than one answer	• During pregnancy 1 • At child birth 2 • Don't know 88 • No response 99		
207	Can a woman with HIV or AIDS transmit the virus to her new born child through breast feeding?	• Yes 1 • No 2		
208	If a woman is infected with the AIDS virus, is there any way to avoid transmission to the baby?	• Yes 1 ⟶ • No 2 • I don't know 88	209	

209	Do you know the existence of intervention which reduce mother to child transmission of HIV virus?	• Yes 1 ⟶ • No 2	210	
210	What can a woman do to reduce transmission of the HIV virus?	• Use antiretroviral drug 1 • Avoid breast feeding 2 • Other(specify)---------- 3		

PART III – Personal risk perception

Sr.no	Question	Coding category	Skip	code
301	Do you think you can get the virus?	• **Yes** **1** ⟶ • No 2 ⟶ • I don't know 88 • no response 99	302, 303 304	
302	What are your chances of getting infected with HIV?	• **m**oderate 1 • high 2 • I don't know 88 • No response 99		
303	If the answer is moderate or high, what are the reasons?	• I had multiple sexual partners 1 • I had sexual contact without condom 2 • I had injection with unsterile needle 3 • I had sexual contact with HIV positive person 4 • Other specify _____ 5 • I don't know 88 • No response 99		
304	If you response is NO to question number (301), what are the reasons?	• I trust my sexual partner 1 • No injection with unsterile needle 2 • I always use condom 3 • I don't know 88 • No response 99		

Section IV – Voluntary HIV Counseling and Testing

Sr.no	Question	Coding categories	skip	code
401	Have you ever heard of voluntary HIV counseling and testing?	• Yes 1 • No 2 • I don't know 88 • No response 99		
402	What is the source of information, if the answer is yes?	• Mass media (Radio, TV, etc) 1 • Health work or Institution 2 • Friends 3 • Neighbors 4 • Other (specify) _____ 5		
403	Have you ever told about the benefit of HIV testing?	• Yes 1 • No 2 • No response 99		
404	Do you think voluntary HIV counseling and testing is important for pregnant women	• Yes 1 • No 2 • I don't know 88 • no response 99		
405	I don't want to know the result but have you ever had voluntary counseling and testing?	• Yes 1 → • No 2 →	406, 407 409	
406	When did you have your most recent HIV test?	• Within the past one year 1 • Between one and two year 2 • Between two and four year 3 • More than four year 4 • I don't know 88 • No response 99		
407	What is the reason for testing? If the answer to question number (405) is yes.	• Marriage 1 • To protect the child 2 • To protect partner 3 • To know my status 4 • Other (specify)_____ 5 • I don't know 88 • No response 99		
408	Did you voluntarily undergo the HIV test or were you requested to have the test?	• Voluntarily 1 • Requested 2 • Other(specify)_____ 3		

Sr.no	Question	Coding Category	skip	code
409	What are some of the reasons you think for refusal of voluntary HIV testing?	• Inablity to deal with stress of being positive 1 • Fear of rejection by the community 2 • Uncertenity about housbands reaction 3 • Non respect of confidentialiy 4 • Other(specify)_____ 5 • Idon't know 88 • No response 99		
410	Do you receive counseling before testing?	• Yes 1 → • No 2 • Don't know 88 • No response 99	411	
411	Were you satisfied with HIV counseling you received?	• Yes 1 • No 2 • No response 99		
412	Don't tell me the result; do you know the result of your test?	• Yes 1 • No 2 • I don't know 88 • No response 99		
413	Do you know some one who had been tested for HIV virus?	• Yes 1 • No 2		
414	Do you need to be tested if you know the existence of such intervention?	• Yes 1 • No 2 • I don't know 88 • No response 99		
415	To whom do you think that the test is of benefited during pregnancy?	• Mother alone 1 • Baby alone 2 • Mother and baby 3 • Health workers 4 • Other (specify) _____ 5 • No response 99		

Sr.no	question	Coding categories	skip	code
416	By whom do you prefer to get voluntary counseling and testing?	• Doctor 1 • Nurse 2 • Trained counselor 3 • HIV patient 4 • Other (specify) _____ 5		
417	Which method of testing do you prefer?	• Confidential linked testing 1 • Anonymous 2 • Other (specify) _____ 3 • I don't know 88 • No response 99		
418	Which way do you prefer to obtain HIV test result?	• Face to face(verbally) 1 • Secretive letter 2 • Through relative or partner 3 • Telephone 4 • Other specify 5 • No response 99		
419	Did you receive counseling after getting your result?	• Yes 1 • No 2 • I don't know 88 • No response 99		
420	Would you talk your partner before having HIV test?	• Yes 1 • No 2 • No response 99		
421	Would you tell your partner the test result of an HIV /AIDS test	• Yes 1 • No 2 • I don't know 88 • No response 99		

ANNEX 2

በአዲስ አበባ ዩኒቨርስቲ ሕክምና ፋካልቲ
የሕብረተሰብ ጤና አጠባበቅ ክፍል

አዲስ አበባ ውስጥ በሚገኙ የሠራዊት ሆስፒታሎች ውስጥ የቅድመ ወሊድ ምርመራ የሚያደረጉ ነፍሰጡር ሴቶች ስለበፈቃደኝነት ላይ ለተመሠረተ የኤች አይ ቪ ኤድስ የምክርና የምርመራ አቀባበል ሁኔታን የተመለከተ ጥናት።

01 **የጥናቱ ቦታ** _____

02 **የጥናቱ ተሳታፊዎች**

1. **በፍቃደኝነት ላይ የተመሠረተ የኤች አይ ቪ ምርመራ ያደረጉ**
2. **በፍቃደኝነት ላይ የተመሠረተ የኤች አይ ቪ ምርመራ ያላደረጉ**

<u>መግቢያ</u>

ስሜ _____ **ይባላል። በዚህ** _____ **የቅድመ ወሊድ ምርመራ ክሊኒክ በሚያደረገው በፍቃደኝነት ላይ የተመረኮዘ የኤች አይ ቪ ምክርና ምርመራ በነፍሰጡር ሴቶች ያለው ተቀባይነትን የሚወስኑ ነገሮች ላይ በሚጠናው ጥናት ላይ መጠይቆችን እጠይቃለሁ።**

አሁን የኤች አይ ቪ ኤድስን ; የኤች አይ ቪ ቫይረስ ከእናት ወደ ልጅ መተላለፍን; የኤች አይ ቪ ኤድስ ቫይረስ ከእናት ወደ ልጅ እንዳይተላለፍ ስለሚወሰድ እርምጃ እንዲሁም ስለቅድመ ወሊድ በፈቃደኝነት ላይ የተመሠረተ የኤች አይ ቪ ቫይረስ ምክርና ምርመራን የተመለከቱ ጥያቄዎችን እጠይቃለሁ። መጠይቁ ላይ ስምም ሆነ የእርስዎን ማንነት የሚገልጽ ማንኛውም ዓይነት ነገር አይጠቀስም ወይም አይያዝም።
በመጠይቁ ወቅት የማይፈልጉትን ማንኛውንም ዓይነት ጥያቄ መተው ወይም በማንኛውም ሰዓት መጠይቁን ማቋረጥ ይችላሉ። ሆኖም ግን እርስዎ የሚሰጡን መረጃ ወደፊት የቅድመ ወሊድ የኤች አይ ቪ ምክርና ተቀባይነትን ከፍ ለማድረግ በጣም ጠቃሚ ይሆናል። ስለሆነም በቅድሚያ ስለሚያደርጉልን ትብብር ምስጋናችን ከልብ የመነጨ ነው። መጠይቁ ከ20 እስከ 30 ደቂቃ ሊወስድ ይችላል።

በዚህ ለመሳተፍ ይፈልጋሉን ?

መልሱ አዎ ከሆነ ወደሚቀጥለው ገጽ እለፍ/ፊ

መልሱ አይ አልፈልግም ከሆነ አመስግነህ/ሽ መጠይቁን አቋርጥ/ጭ

መጠይቁን የሞላው ሰው ፊርማ የሚያሳየው በጥናቱ ለሚሳተፉ እናቶች የቃል የጥናቱ ሚስጥራዊነት ማረጋገጫ መሰጠቱን ነው።

መጠይቁን የሞላውሰው ስም _____ **ፊርማ** _____

ቀን _____

ያረጋገጠው ተቆጣሪ

ስም _____ ***ፊርማ*** _____

ቀን _____

ክፍል አንድ

አጠቃላይ የግለሰበ መረጃ

ተ.ቁ	ጥያቄ	መልሶች	ይለፍ	ኮድ
101	ዕድሜዎ ስንት ነው ?	- ≤ 19 ዓመት 1 - ከ20-29 ዓመት 2 - ከ30-39 ዓመት 3 - 40 ዓመትና ከዚያ በላይ 4		
102	ብሔርዎ/ ብሄረሰብዎ ምንድን ነው ?	- አማራ 1 - ኦሮሞ 2 - ትግሬ 3 - ሌላ /ይጠቀስ/ 4		
103	ሐይማኖትዎ ምንድን ነው ?	- ኦርቶዶክስ 1 - ሙስሊም 2 - ካቶሊክ 3 - ፕሮቴስታንት 4 - ሌላ /ይግለጹ/ 5		
104	በት/ቤት ውስጥ መደበኛ ትምህርት ተከታትለው ያውቃሉን ?	- አዎ አውቃሉ 1 ⟶ - አላውቅም 2	105	
105	የትምህርት ደረጃዎ ምን ያህል ነው ?	- ማንበብና መፃፍ 1 - አንደኛ ደረጃ 2 - መለስተኛ ሁለተኛ ደረጃ 3 - ከፍተኛ ሁለተኛ ደረጃ 4 - ከ12ኛ ክፍል በላ 5		
106	ሥራዎ ምንድን ነው ?	- ሥራ ያለው 1 - ሥራ የሌለው 2 - ተማሪ 3 - ሌላ /ይጠቀስ/ 4		
107	በአማካይ የቤተሰብዎ የወር ገቢ ምን ያህል ነው ?	- ከ200 ብር ያነሰ 1 - ከ200-450 ብር 2 - 450ብርና ከዚያ በላይ 3 - በትክክል አይታወቅም 4		

108	የጋብቻ ሁኔታ ?	- ያላገባ 1 - ያገባ 2	109	
109	ካገቡ አሁን የሚኖሩት ከባለቤትዎ ጋር ነው ?	- አዎ 1 - አይደለም 2		

ተ.ቁ	ጥያቄ	መልሶች	ይለፍ	ኮድ
110	የእርግዝና ቁጥር የአሁኑንም እርግዝና ጭምሮ ?	- አንድ 1 - ሁለት 2 - ሶስት 3 - >= አራት 4		
111	መአሁኑ የእርግዝና ጊዜ የቅድመ ወሊድ ምርመራ ክትትል መጠን በቁጥር	- ቢያንሰ ሁለት ጊዜ 1 - ከሁለት ያነሰ 2		

ክፍል ሁለት

እናቶች ስለ ኤች አይ ቪ ኤድስ፣ ስለኤች አይ ቪ ቫይረስ ከእናት ወደሕፃናት መተላለፍ እንዲሁም ከእናት ወደ ልጅ እንዳይተላለፍ ስለሚወሰዱ የመከላከያ እርምጃዎች ያላቸው ዕውቀትና አመለካከት

ተ.ቁ	ጥያቄ	መልሶች	ይለፍ	ኮድ
201	ስለ ኤች አይ ቪ /ኤድስ በሽታ ሰምተው ያውቃሉ ?	- አዎ 1 - አልሰማሁም 2 - አላውቅም 88 - መልስ የለም 99		
202	ኤች አይ ቪ /ኤድስ ቫይረስ እንዴት እንደሚተላለፍ ያውቃሉ ?	- አዎ 1 → - አላውቅም 2 - መልስ የለም 99	203	
203	ለተራ ቁጥር 202 መልሱ አዎ ከሆነ የመተላለፊያ መንገዶቹን ይጠቀሱ (ከአንድ በላይ መልስ መስጠት ይቻላል)	- በግብረሥጋ ግንኙነ 1 - በቫይረሱ በተበከለ ደ 2 - ስለት ነገሮችን በጋራ በመጠቀም 3 - ከእናት ወደ ልጅ 4 - ሌላ /ይጠቀስ/ 5		
204	በኤች አይ ቪ ኤድስ በሽታ የተያዘ ሰው ይድናል ብለው ያስባሉ?	- አዎ 1 - አይድንም 2 - አላውቀም 88 - መልስ የለም 99		
205	የኤች አይ ቪ ቫይረስ በደሚ ውስጥ ወይም የኤድስ በሽታ ያላት እናት ቫይተሱን በማህፀኗ ውስጥ ወዳለው ፅንስ ልታስተላልፍ ትችላለችን?	- አዎ 1 - አታስተላልፍም 2 - አላውቅም 88 - መልስ የለም 99		
206	ኤች አይ ቪ ቫይረስ በደሚ ውስጥ ያለ እናት ወይም በኤድስ በሽታ የተያዘች እናት ቫይረሱን መቼ በማህፀኗ ውስጥ ወዳለው ጽንሰ የምታስተላልፍ ይመስልዎታል ?	- በእርግዝና ወቅት 1 - በወሊድ ወቅት 2 - አላውቅም 88 - መልስ የለም 99		

207	መኤድስ ቫይርስ የተያዘች ሴት ጡት በማጥባት ወደተወለደው ሕፃን ቫይረሱን ማስተከላለፍ ትችላለች?	- አዎ 1 - አታስተላልፍም 2 - አላውቅም 88 - መልስ የለም		
208	አንዲት ሴት የኤች አይ ቪ ቫይረስ በደሟ ውስጥ ካለ ቫይረሱ ወደ ጽንሱ እንዳይተላለፍ የሚያደርግ መንገድ አለን ?	- አዎ 1 → 209 - የለም 2	209	
209	ቫይረሱን ከእናት ወደማህፀኗ ውስጥ ወዳለ ፅንስ እንዳይተላለፍ የሚያደርግ ሕክምና መኖሩን ያውቃሉን?	- አዎ 1 → - አላውቅም 2	210	
210	የጥያቄ 209 መልስ አዎ ከሆነ ቫይረሱ በደሟ ውስጥ ያለ እናት ቫይረሱን ወደ ማሕፀኗ ውስጥ ወዳለ ፅንስ እንዳይተላለፍ ምን ማድረግ አለባት?	- የቫይረሱን መተላለፍ የሚቀንስ መድኃኒት መውሰድ 1 - ጡት ያለማጥባት 2 - ሌላ ካለ ይጠቀስ 3		

ክፍል ሶስት

ስለበሽታው የመጋለጥ ግላዊ እሳቤ

ተ.ቁ	ጥያቄ	መልሶች	ይለፍ	ኮድ
301	የኤች አይ ቪ ቫይረስ ሊይዘኝ ይችላል ብለው ያስባሉን ?	- አዎ 1 → 302,303 - አላስብም/ የለም 2 → 304 - አላውቅም/ አላስታውስም 88 - መልስ የለም 99		
302	መቫይረሱ የመያዝ ዕድልዎ ምን ያህል ነው ?	- መካከለኛ 1 - ከፍተኛ 2 - አላውቅም 88 - መልስ የለም 99		
303	የጥያቄ 301 መልስ አዎ ከሆነ ምክኒያቱ ምንድን ነው ?	- ያለኮንዶም የግብረሥጋ ግንኙነት ስለፈፀምኩ 1 - ኤች አይ ቪ ፖዘቲቭ ከሆነ ሰው ጋርየግብረሥጋ ግንኙነት ስለፈፀምኩ 2 - ብዙ የወሲብ ጓደኞች ስለነበሩ 3 - ሌላ ሰው በተወጋበት መርፌ ስለተወጋሁ 4 - ሌላ /ይጠቀስ/ 5 - አላውቅም 88 - መልስ የለም 99		
304	የጥያቄ 301 መልስ አይደለም ከሆነ ምክኒያቱ ምንድን ነው ?	- በአንድ ሰው ተወስኘ ስለምኖር 1 - በተበከለ መርፌ ስለማልጠቀም 2 - ሁልጊዜ ኮንዶም ስለምጠቀም3 3 - ሌላ /ይጠቀስ/ 4 - አላውቅም/ አላስታውስም 88 - መልስ የለም 99		

የቅድመ ኤች አይ ቪ የምክር አገልግሎትንና የኤች አይ ቪ ምርመራን የተመለከተ ጥያቄ

ተ.ቁ	ጥያቄ	መልሶች	ይለፍ	ኮድ
401	በፈቃደኝነት ላይ ስለተመሠረተ የኤች አይ ቪ የምክር አገልግሎትና ምርመራ ሰምተው ያውቃሉን ?	- አዎ 1 - አልሰማሁም 2 - አላውቅም/ አላስታውስም 88 - መልስ የለም 99		
402	የጥያቄ 401 መልስ አዎ ከሆነ ከዬት ሰሙ?	- ከራዲዮ፣ ከቴሌቪዥን፣ ከጋዜጣ 1 - ከጤና ባለሙያ/ ከጤና ድርጅት 2 - ከጓደኛ 3 - ከጎረቤት 4 - ሌላ /ይጥቀስ/ 5		
403	ስለኤች አይ ቪ ምርመራ ጥቅም ሰምተው ወይም ተነግሮዎት ያውቃል ?	- አዎ 1 - አልተነገረኝም 2 - መልስ የለም 99		
404	በፍቃደኝነት ላይ የተመሠረት የኤች አይ ቪ የምክር አገልግሎትና ምርመራ ለነፍሰጡር ሴት ጠቃሚ ነው ብለው ያስባሉን ?	- አዎ 1 - አላስብም 2 - አላውቅም 88 - መልስ የለም 99		
405	ውጤቱን አይንገሩኝ ነገር ግን በፍቃደኝነት ላይ የተመሠረተ የኤች አይ ቪ የምክርና ምርመራ አድርገው ያውቃሉን ?	- አዎ 1 - አላደረኩም 2 - አላውቅም/ አላስታውስም 88 - መልስ የለም 99	406,407 409	

406	በቅርቡ ወይም ለመጨረሻ ጊዜ የኤች አይ ቪ ምርመራ ያደረግሽው መቼ ነው ?	- ባለፈው ዓመት 1 - ከ1-2 ዓመት በፊት 2 - ከ2-4 ዓመት በፊት 3 - ከ4 ዓመት በፊት 4 - አላውቅም/ አላስታውስም 88 - መልስ የለም 99		
407	ለጥያቄ 405 መልሱ አዎ ከሆነ ለመመርመር ምክኒያትዎ ምን ነበር ?	- ለጋብቻ 1 - የቫይረሱን ወደልጅ መተላለፉን ለመከላከ 2 - ፍቅረኛዬን በቫይረሱ ለመከላከል 3 - የራሴን ሁኔታ ለማወቅ 4 - ሌላ /ይጠቀስ/ 5 - አላውቅም/ አላስታውስም 88 - መልስ የለም 99		

ተ.ቁ	ጥያቄ	መልሶች	ይለፍ	ኮድ
408	የኤች አይ ቪ ምርመራ ያደረጉት በራስዎ ፈቃድ ነው ወይስ ምርመራውን እንዲያደርጉ ተጠይቀው ነው ?	- በፍቃደኝነት ነው 1 - በተጠየኩት መሠረት ነው 2 - ሌላ /ይጠቀስ/ 3		
409	በፈቃደኝነት ላይ የተመሠረተ የኤች አይ ቪ ምርመራ ላለማድረግ ምክኒያት ይሆናሉ የሚሏቸው ነገሮች ምንድን ናቸው?	- በበሽታው ምክኒያት የሚመጣውን ጭንቀት በመፍራት 1 - በሕብረተሰቡ ዘንድ መገለልን በመፍራት 2 - ከባል የሚያጋጥምን ምላሽ በመፍራት 3 - ሚስጠር ስለመጠበቁ ስለማልተማመን 4 - ሌላ ካለ ይጠቀስ 5 - አላውቅም 88 - መልስ የለም 99		
410	የኤች አይ ቪ ቫይረስ የደም ምርመራ ከማድረግዎ በፊት የምክር አገልግሎት አግኝተው ነበር ?	- አዎ 1 ~~4~~ 411 - አላገኘሁም 2 - አላውቅም/ አላስታውስም 88 - መልስ የለም 99		
411	በተሰጠዎት የቅድመ ኤች አይ ቪ ምርመራ የምክር አገልግሎት ረክተዋልን ?	- አዎ 1 - አልረካሁም 2 - መልስ የለም 99		
412	ለኔ አትንገሪኝ ነገር ግን ለራስሽ ውጤቱን አውቀሻል?	- አዎ 1 - አላወኩም 2 - አላውቅም/ አላስታውስም 88 - መልስ የለም 99		
413	ከዚህ በፊት የኤች አይ ቪ ቫይረስ የደም ምርመራ ያደረገ ሰው ያውቃሉን?	- አዎ 1 - አላውቅም 2		

414	የኤች አይ ቪ ቫይረስን ከእናት ወደ ልጅ መተላለፍ የሚቀንስ ሕክምና እንዳለ ቢያውቁ ለመመርመር ፍቃደኛ ነዎትን ?	- አዎ 1 - አይደለሁም 2 - አላውቅም 88 - መልስ የለም 99		
415	የኤች አይ ቪ ቫይረስ ምርመራ ማደረግ ለማን የሚጠቅም ይመስልዎታል ?	- ለእናትዬዋ ብቻ 1 - ለልጁ ብቻ 2 - ለእናትና ለልጅ 3 - ለጤና ባለሙያ 4 - ሌላ /ይጠቀስ/ 5 - አላውቅም/ አላስታውስም 88 - መልስ የለም 99		

416	በፍቃደኝነት ላይ የተመሠረተ የኤች አይ ቪ ኤድስ የምክርና የምርመራ አገልግሎት ማን ቢሰጥዎት ይመርጣሉ ?	- በሐኪም 1 - በነርስ 2 - በኤች አይ ቪ የምክር አገልግሎት የሰለጠነ 3 - በኤች አይ ቪ በሽተኛ 4 - ሌላ /ይጠቀስ/ 5		
417	የኤች አይ ቪ ኤድስ ቫይረስን የምርመራ አገልግሎትን በተመለከተ የቱን የምርመራ ዓይነት ይመርጣሉ ?	- ስም ተጠቅሶ በሚስጥር የሚያገለበት ምርመራ 1 - ስም የማይገለጽበት ምርመራ 2 - ሌላ /ይጠቀስ/ 3 - አላውቅም 88 - መልስ የለም 99		
418	የኤች አይ ቪ ቫይረስ የደም የምርመራ ውጤትዎን በምን ዓይነት መንገድ ቢሰጥዎት ይመርጣሉ ?	- ፊት ለፊት 1 - በሚስጥራዊ ደብዳቤ 2 - በዘመድ /በጓደኛ/ በኩል 3 - በስልክ 4 - ሌላ /ይጠቀስ/ 5 - መልስ የለም 99		

419	**የኤች አይ ቪ ቫይረስ የደም ምርመራ ውጤትዎን ከወሰዱ በኋላ የምክር አገልግሎት አግኝተዋልን** ?	- **አዎ** 1 - **አላገኘሁም** 2 - **አላውቅም** 88 - **መልስ የለም** 99		
420	**የኤች አይ ቪ ኤድስ የደም ምርመራ ከማድረግዎ በፊት ለፍቅረኛዎ /ለባለቤትዎ/ አማክረው ነበር** ?	- **አዎ** 1 - **አላማከርኩም** 2 - **መልስ የለም** 99		
421	**የኤች አይ ቪ ኤድስ የደም ምርመራ ውጤትዎን ካወቁ በኋላ የምርመራውን ውጤት ለፍቅረኛዎ /ለባለቤትዎ ይነግራሉ** ?	- **አዎ** 1 - **አልነግርም** 2 - **አላውቅም** 88 - **መልስ የለም** 99		

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 acknowledge.

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Date of submission: June 2005

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

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