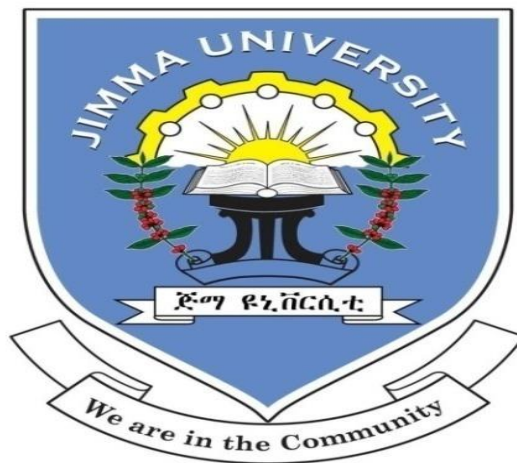


Assessment of PMTCT service utilization and its associated factors among pregnant women attending ANC in health centers of Addis Ababa, Ethiopia Using Health Belief Model



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Abstract

Background: Maternal-to-Child transmission of HIV is responsible for about 20% of all HIV transmissions and more than 90% of worldwide paediatrics HIV infections. Without any preventive interventions, nearly 50% of HIV positive mothers will transmit HIV to their children during pregnancy, labour and breastfeeding.

Objective: This study was to assess prevention of mother to child transmission of HIV service utilization and its associated factors among pregnant women attending ante natal care in health centers of Addis Ababa, Ethiopia Using Health Belief Model.

Method: Institution based cross sectional study design supplemented with qualitative study was conducted in randomly selected pregnant women from September 1-30/2013 in health centers in Addis Ababa. A total of 308 pregnant mothers counselled in ante natal care follow up were included in the study .Both quantitative and qualitative data collection methods were used through face to face interview. Bivariate analysis was conducted to investigate the association between each independent variable and the outcome variable for each study group. Variables that had statistically significant association at p-value of <0.25 were analysed together by controlling their confounding effects to each other and also multiple logistic regression value of <0.05 was considered to establish statistical association. Qualitative data was analysed by thematic approach. Finally the data from quantitative and qualitative was triangulated.

Result: Out of 301 women interviewed 172(57.1%) had get message about Prevention of mother to child transmission of HIV and 166(55.1%) not utilized prevention of mother to child transmission of HIV. Utilization of prevention of mother to child transmission of HIV service by pregnant women were significantly associated with age group 26-30 years, AOR=2.648, 95 %CL (1.186, 5.911) and marital status which is widowed, AOR=0.101, 95%CL (0.012, 0.841). Most women 172(57.1%) had low perceived susceptibility to HIV, 160(53.2%) had low perceived benefit and 169(56.1%) had low perceived barrier. Among the perception characteristics perceived barrier, AOR=0.479, 95%CL (0.276, 0.833) and perceived self efficacy, AOR=2.439, 95%CL (1.427, 4.167) had independent significant association with utilization of PMTCT service.

Conclusion and Recommendation: This study has found that more than half of the study subjects utilize prevention of mother to child transmission of HIV service. Prevention and control program on HIV, mother to child transmission, such as health education and promotion on HIV transmission, prevention, mother to child transmission, and prevention of mother to child transmission of HIV should be given in all health facilities so as to increase the number of clients using PMTCT service.

Table of contents

page

Abstract.....	I
Table of contents.....	II
List of tables.....	IV
List of figures.....	V
Acknowledgement	VI
Acronyms.....	VII
Chapter one: Introduction	1
1.1Background.....	1
1.2. Statement of the Problem.....	3
Chapter two: Literature Review.....	5
2.1 Modifying factors.....	5
2.1.1Socio-Demographic and Economic Factors.....	5
2.1.2Knowledge on HIV transmission, prevention, MTCT and PMTCT	6
2.2 Individual perceptions.....	8
2.2.1Perceived Susceptibility to HIV.....	8
2.2.2Perceived Seriousness to HIV.....	8
2.2.3 Perceived Barriers of following PMTCT service	8
2.2.4 Perceived Benefits of following PMTCT program.....	9
2.2.5 Cues to utilize PMTCT	9
2.2.6 Utilization of PMTCT.....	10
2.3 Significance of the study.....	13
Chapter three: objective	14
3.1. General objective	14
3.2. Specific objectives	14
Chapter four: Methods	15
4.1 Study Area and Study Period.....	15
4.2 Study Design.....	15
4.3 Population	15
4.3.1 Source Population	15
4.3.2 Study Population.....	16
4.4 Sample size Determination	16
4.5 Sampling Technique/procedure	17

4.6. Variables	18
4.6.1 Dependent Variable:	18
4.6.2 Independent Variables:	18
4.7. Data collection Instruments	18
4.8. Data Collection Procedure	19
4.9. Data Quality Management	19
4.10. Data Processing, analysis and presentation	20
4.11. Dissemination of Finding.....	20
4.12. Ethical Consideration.....	21
4.13. Operational Definitions.....	21
Chapter Five: Result	23
5.1. Socio demographic characteristics.....	23
5.2. Knowledge	24
5.3. Perception	24
5.4. PMTCT service.....	25
5.5. Bivariate Analysis Result.....	27
5.6. Multivariable Analysis Result.....	30
Chapter six: Discussion.....	32
Chapter seven: Conclusion and recommendation.....	35
7.1. Conclusion	35
7.2. Recommendations.....	35
Annexes I.....	36
References.....	36
Annex II: Instruments	40
Section I: Questionnaire English version.....	40
Section II: Data collection instrument for qualitative study	46
Section III: Questionnaire Amharic Version	48

List of tables

	Page
Table 1:- Socio-demographic characteristics of pregnant women attending antenatal care in the public health centers, Addis Ababa, Ethiopia, 2013. -----	23-24
Table 2:- PMTCT service utilization and Perceptions towards HIV/PMTCT among Pregnant Women Attending Antenatal Care in the public health centers, Addis Ababa, Ethiopia, 2013. -----	25
Table 3:- PMTCT service utilization versus socio demographic and knowledge variables in the public health centers, Addis Ababa, Ethiopia, 2013. -----	27-29
Table 4:- PMTCT Service Utilization versus Behavioural Factors, Addis Ababa, Ethiopia, 2013. -----	29
Table 5:- Association of PMTCT service utilization versus socio demographic, Behavioural and knowledge variables in the public health centers, Addis Ababa, Ethiopia, 2013. -----	30-31

List of figures

Page

Figure: 1 Schematic diagram showing conceptual frame work of assessment of PMTCT service utilization and its associated factors among pregnant women attending ANC health centers of Addis Ababa, Ethiopia, 2013. -----12

Figure: 2 schematic representation of sampling technique of the study in Addis Ababa. -----17

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Acronyms

CSWs	Commercial Sex Workers
ANC	Ante Natal Care
DHS	Demographic and Health Survey
SNNP	South Nation's Nationalities Peoples
EDHS	Ethiopian Demographic and Health Survey
UN	United Nation
UNAIDS	Joint United Nations Program on AIDS
MTCT	Mother to Child Transmission
PMTCT	Prevention of Mother to Child Transmission
MNCH	Maternal, Newborn, and Child Health
ART	Ante Retroviral Therapy
ARV	Ante Retroviral Drug
WHO	World Health Organization
UNICEF	United Nations International Children's Emergency Fund
CD4	One group of immune system T cells
HAART	Highly Active Antiretroviral Therapy
EID	Early Infant Diagnosis
AOR	Adjusted Odds Ratio
CI	Confidence Interval
HTC	HIV Testing and Counseling
VCT	Voluntary Counseling and Testing
HCPs	Health Care Providers
HBM	Health Belief Model
FGD	Focus Group Discussion
IDI	In-Depth Interview
SPSS	Statistical Package for Social Science
PPS	Probability Proportional to Size
SRS	Simple Random Sampling
HIV/AIDS	Human Immune Virus/Acquired Immune Deficiency Syndrome

Chapter one: Introduction

1.1 Background

Globally, 34.0 million people were living with HIV at the end of 2011. An estimated 0.8% of adults aged 15-49 years worldwide are living with HIV. There were **3.3 million** children living with HIV in 2011, 330,000 new infections among children, 230,000 AIDS deaths, and approximately 17.3 million AIDS orphans (children who have lost one or both parents to HIV), most of whom live in sub-Saharan Africa (88%). In sub-Saharan Africa, home to 92% of pregnant women living with HIV, the percentage of pregnant women living with HIV who received antiretroviral therapy or prophylaxis is now 59%. The number of people dying from AIDS-related causes in sub-Saharan Africa declined by 32% from 2005 to 2011, although the region still accounted for 70% of all the people dying from AIDS (1).

Ethiopia remains a country highly affected by the epidemic, with nearly 800,000 people living with HIV. Sentinel surveillance provides data in a specified age group of population and helps to monitor trends in HIV prevalence over the years. In Ethiopia, one important source of such data is sentinel surveillance among Ante natal care clinic attendee women. Findings from the most recent Ante natal care sentinel surveillance data show a declining prevalence of infection rates among women age 15-24 years attending ANC, from 5.6% in 2005, to 3.5% in 2007, to 2.6% in 2009. This trend was marked both in urban and rural areas. In urban centres the prevalence has halved, declining from 11.5 % in 2003 to 5.5% in 2009. The declining trend is even steeper in rural areas where prevalence declined from 4% in 2003, to 1.4% in 2009. Generally, 94% of the sentinel sites showed absolute decrease of which half of these were statistically significant (2).

According to Demographic and health survey 2011 urban adult HIV prevalence was 4.2% while rural adult HIV prevalence was 0.6%. HIV prevalence ranges from 0.9% in SNNP and 1.0% in Oromiya region to 5.2% in Addis Ababa and 6.5% in Gambella region (2).

Ethiopia is one of the few sub-Saharan countries showing a decline of more than 25% in new HIV infections (3). Data for 2011 Ethiopian demographic and health survey show a prevalence of 1.5% in the age group 15-49. For both men and women HIV prevalence levels

rise with age, peaking among women in their early to mid-30s and among men in their late 30s. The age patterns suggest that young women are particularly vulnerable to HIV infection compared with young men (4).

Preventing mother-to-child transmission requires clinical and population health approaches to reducing the HIV transmission rate (5). The comprehensive PMTCT framework, developed by the UN, builds on PMTCT's contribution to maternal, new-born, and child health (MNCH) providing guidance on the four prongs of PMTCT intervention: (1) primary prevention, (2) family planning, (3) ART/ARV interventions, and (4) care, treatment, and follow-up. The third major development is the PMTCT cascade. The period of vulnerability for MTCT extends from conception through a minimum of 18 months post-partum (6). Throughout this period, a variety of clinical services act to reduce MTCT vulnerability. The PMTCT cascade outlines the critical elements of treatment and care for HIV+ pregnant women from conception through delivery, infant testing, and diagnosis (7).

According to mathematical modelling estimates there are nearly 789,900 people currently living with HIV/ AIDS (607,700 adults and 182,200 children aged 0-14 years); and 952,700 AIDS orphans (8). According to single point estimate the HIV prevalence in Addis Ababa is 9.2 % (male 7.3% and female 11 % (9). The HIV prevalence among ANC attendances is 5.3 % (10).

1.2. Statement of the Problem

Maternal-to-Child transmission of HIV (MTCT) is responsible for about 20% of all HIV transmissions and more than 90% of worldwide paediatrics HIV infections, 95% of which are in the Sub-Saharan Africa (11). Without any preventive interventions, nearly 50% of HIV positive mothers will transmit HIV to their children during pregnancy, labour and breastfeeding. HIV/AIDS associated illnesses are responsible for up to 10% of childhood mortalities in Africa (12).

Women represent about half of all people living with HIV worldwide, and more than half (58%) in sub-Saharan Africa. HIV is the leading cause of death among women of reproductive age. Gender inequalities, differential access to services, and sexual violence increase women's vulnerability to HIV, and women, especially younger women, are biologically more susceptible to HIV. Young people, ages 15–24, account for approximately 40% of new HIV infections (among those 15 and over) (13).

Without intervention, the risk of HIV-infected mothers passing their infection to their children ranges from 20-45 % (7). Modern PMTCT strategies include testing for HIV during pregnancy, modified obstetric practices, preventive anti-retroviral (ARV) drugs, and modified infant feeding practices. These strategies, which are still limited both in scope and reach in most of Sub-Saharan Africa, where ironically, the heaviest burden of maternal HIV infection and MTCT exist, have the potential of reducing the MTCT risk down to only 2 to 5 % (14).

In 2001, Ethiopia developed a national guideline on Prevention of Mother-to-Child Transmission (PMTCT) of HIV infection. This was further reviewed and updated in 2007 and 2010 incorporating latest managerial, technical and clinical developments accepted nationally and internationally. The guideline adopts the PMTCT strategy of WHO/UNICEF/UNAIDS emphasising primary prevention of HIV infection, prevention of unintended pregnancies among HIV infected women, prevention of HIV transmission from infected women to their infants, and treatment, care and support of HIV infected women, their infants and their families. Most recently, a revised strategy for accelerated implementation of the PMTCT programme was endorsed (15).

In the last several years there has been progress in implementation of PMTCT services through integration to ANC clinics which are also provided free of charge. As a result, the number of facilities providing PMTCT services has increased from 32 in 2003/4 to 1,352 in

2009/10; and reached to 1,445 by the end of June 2011. This is an increase by nearly 4 fold in the last 5 years and forty-five increases over the last ten years (16). Along with the expansion of services, the number of pregnant mothers who receive PMTCT services has also increased. For example, the number of pregnant mothers who received pre-HIV test counselling has increased from 711,341 in 2009/10 to 1,261,752 by the end of June 2011 (17). According to EDHS report of 2011, Percentage who received counselling on HIV and HIV test during ANC and the Results in Addis Ababa is 76 % (4).

Furthermore, during 2011, a total of 10,302 HIV positive pregnant women received ARV prophylaxis for PMTCT. However, overall coverage of PMTCT still remains as low as 24% of the expected eligible population (18). Low coverage of PMTCT services has been a consistent problem. While 82% of women accessed ANC services at least once during their most recent pregnancy; PMTCT services were available only in 54% of all facilities. Furthermore, even in those facilities where PMTCT services are available, there are many missed opportunities as a significant proportion did not use available services. In fact, performance data show that while 98% of pregnant women attending ANC clinics providing PMTCT services were 'counselled'; a quarter were not tested for HIV, and even among those who were HIV positive, 60% were not provided with ARV prophylaxis for PMTCT (13).

A total of 8,365 HIV-positive mothers received ART treatment in 2010, amounting to 9.3% of those eligible (90,311), which was above the 2009 performance (6,990), but far below the target set for the year (18,027). Out of 14,276 HIV-positive births, 4,945 newborns (34.6%) received PMTCT prophylaxis in 2010. Despite the increase in ANC coverage observed in the past years, PMTCT coverage is still low (9.3%). In Addis Ababa 1,689 HIV-positive mothers provided with PMTCT prophylaxis. Out of 14,276 HIV-positive births, 4,945 newborns (34.6%) received PMTCT prophylaxis in 2010 (19).

Further studies on assessment of PMTCT service utilization and its associated factors among pregnant women attending Ante natal care are necessary so as to increase the utilization of PMTCT. Most studies conducted did not include some important factors for utilization of PMTCT service. Using theory/models in this research will help to understand important factors that are associated to PMTCT service. This will help to design programmes which will increase the acceptance PMTCT service.

Chapter two: Literature Review

With no intervention about a third of HIV positive women will transmit the virus to their children during pregnancy, labour and delivery and through breastfeeding (20). To halt the MTCT various interventions has been implemented since the time MTCT was recognized. Preventive interventions aimed at reducing MTCT largely focusing on prevention of intra-partum and post-partum transmission (21). Since then, different antiretroviral prophylaxis are being tried and used globally. In the most affluent regions of the world a combination of Ante retroviral drugs reduce the vertical transmission rates to about 1-2% among formula fed infants. Combination therapy is associated with a prolonged suppression of viral replication with marked reductions in viral load as well as a delay in the emergence of viral resistance. Single dose Nevirapine given to women during the intrapartum period and to babies within 72 hours of birth reduces the MTCT by 47% (22).

The PMTCT service in Ethiopia was introduced by the Nigat project in 2001. The project was the first clinical trial to assess the preventive efficacy of the single dose Nevirapine for PMTCT among three groups of HIV exposed infants whose mother practiced different feeding methods. The finding of the study proved the high efficacy of single dose Nevirapine in reducing MTCT among non-breast fed and exclusively breast fed infants but found less efficacious for infants on mix feeding (both breast milk and complementary feeding) (23). According to the national HIV/AIDS road map 2004 - 2006, by the end of 2006 it was planned to provide PMTCT services in 89 hospital and 250 health centres but only 72 centres were offering PMTCT services throughout the country in 2005 (24).

2.1 Modifying factors

2.1.1 Socio-Demographic and Economic Factors

Socio-demographic and economic factors affect PMTCT services utilization. A study done in Hawassa, Ethiopia indicates socioeconomic factors compel HIV positive pregnant women to stay away from health facilities when they are due to give birth (25). In the study done in dilchora Hospital, Dire Dawa, East Ethiopia in 2006 indicates Individuals with higher income were more likely to have HIV testing as compared to individuals with lower income (26).

A study conducted in Sudan, suggested that the uptake of the HIV testing among pregnant women is higher in urban than rural areas (27). In the study from Tanzania revealed that, the

residence of the pregnant women either in urban or rural areas could influence access and uptake of the PMTCT services (28). Another study done in western Amhara region, rural women were more likely to decline individual voluntary counselling after group information in the antenatal setting (29).

In the study conducted in the Khartoum in "2007" showed that pregnant women aged twenty six years or above are more willing to have HIV counselling and testing than the younger one (30). Another study conducted in Khartoum state in 2010 pointed out pregnant women age 30 years or above are more willing to accept HIV testing provided in the Ante natal care (27). A study conducted among pregnant women presented in labour " in Botswana", showed that pregnant women age 35 years are likely accepting HIV counselling and testing than the younger women. The same study suggests that, younger pregnant women, most likely to be in their first pregnancy and first contact with antenatal care clinic compare to the older women (31). In the study done in dilchora Hospital, Dire Dawa, East Ethiopia in 2006 showed Older age groups (≥ 30 years) were 78% less likely to accept voluntary HIV testing as compared to the younger ones (≤ 19 years) (26).

A study conducted in the Sudan, in 2010 showed that acceptance of the HIV testing among 500 pregnant women, attending ANC service is high among the educated pregnant women compared to none educated pregnant women (27). Also, another study conducted to assess Gender issues in HIV/AIDS epidemiology in Sub- Saharan Africa, Wagadu, 2005 suggested that low literacy of the pregnant women, was one of the factors that prevent pregnant women from utilized the PMTCT services in sub-Saharan Countries (32). In the study done in western Amhara region, pregnant women who had formal schooling were more likely to undergo voluntary HIV counselling compared to those without formal schooling (29).

In the study done in western Amhara region indicates, farmers were more likely to decline counselling compared to those who are not farmers (29).

In the study done in dilchora Hospital, Dire Dawa, East Ethiopia in 2006 indicates Married women were more likely to accept voluntary HIV testing than single ones (26).

2.1.2 Knowledge on HIV transmission, prevention, MTCT and PMTCT

A Qualitative Study in Arba Minch, Ethiopia explored the important of knowledge on PMTCT services utilization such as the possibility of transmission from mother-to-child, the need of prevention through counselling, hospital delivery, use of ARV drugs, and avoiding breastfeeding (33). In the study done in western Amhara region.32.0% of pregnant women believed that HIV is a curse sent from GOD as a punishment of the sin of people. 68.8%, 61.7% and76.1% had the correct knowledge that MTCT of HIV occurs during pregnancy, labor and breast-feeding respectively. 99.6% knew at least one method of prevention of HIV transmission. Coming to PMTCT, 96.9% of the pregnant women had heard of it and of these, 91.6% mentioned chemotherapy while 6.2% believed that there is a vaccine for PMTCT. Of the 344 pregnant women who had the correct knowledge that MTCT of HIV occurs during breast-feeding, only 183 mentioned that PMTCT is possible through avoidance of breast-feeding (29). A study done in Hawassa town, Ethiopia, the result shows that 95.5% of the women knew about MTCT of whom 91.7% knew that MTCT can be prevented. From the women who knew about MTCT, 65% were aware of the fact that MTCT can occur during pregnancy, 74.4% during labour and delivery and 91.9% through breast feeding. Among the women who knew about PMTCT, 73.3% were aware of the availability of prophylactic ARV drugs, 82.4% avoiding breast feeding to prevent MTCT, 57.9% knew that safe delivery practice can prevent MTCT (25). A study conducted in Addis Ababa the result showed that, pregnant women with secondary education and above were more knowledgeable about MTCT and prevention methods (34). In Sudan, the knowledge about MTCT among women is low. The Sudan household Survey in 2006, reported only 54% of the women age 15-49 knew that HIV can transmit from mother to her infant. Similarly, the number of the women who knew all three routes by which, the of HIV infection transmission from mothers to child (during pregnancy, at delivery and through breast feeding) were 26.4%. The same report showed that women with no education have less knowledge about MTCT compared to those with secondary education, 29.7% and 76.5% respectively (35). A study conducted in Sudan sampled 53 pregnant women showed that 96% of the respondents did not know HIV infection can transmit from mother to her child (36). A study conducted in Ogun State, Nigeria; in 2007 the study revealed that pregnant women with better information about HIV and MTCT are more willing to use the PMTCT services (37).

2.2 Individual perceptions

2.2.1 Perceived Susceptibility to HIV

Varga and Brookes (2008) examined adherence to PMTCT in teens, ages 15 years to 18 years. They found that fear of a positive test result and concerns about confidentiality were important factors in uptake and participation in PMTCT services (38). In another study done in north western Ethiopia indicates the majority of study subjects (63.4%) had low perceived susceptibility to HIV and also perceived susceptibility to HIV were found to be independent significant predictors of readiness to VCT (39).

2.2.2 Perceived Seriousness to HIV

In the study done in north western Ethiopia indicates about 66.5% pregnant women had high perceived severity of HIV/AIDS (39). In another study done in Los Angeles County health survey, 2005 examined the relationship between perceptions of the seriousness of HIV/ AIDS in one's community and HIV testing. The unadjusted comparison showed a testing rate of 30.2 % among those perceiving high seriousness, 11.4 percentage points higher than the 18.8 % testing rate among those perceiving low seriousness. After propensity score matching, the adjusted testing difference was 7.0 percentage points. Those uncertain about the seriousness of HIV did not differ significantly in their testing behaviour from those perceiving high seriousness (40).

2.2.3 Perceived Barriers of following PMTCT service

A Qualitative study in Arba Minch, Ethiopia explored HIV related stigma, HIV positive women who desire to keep their status confidential may inhibiting the effectiveness of PMTCT, Stigmatizing attitudes also manifest within the hospital setting, Inadequate human resource capacity was also identified as a constraint to effective delivery of PMTCT services in the study areas (25). In the study done in western Amhara region, reasons given for not counselled ever or up until the time of survey were fear of being identified as HIV positive in the community in 160 (52.6%), low perceived risk of having HIV in 77(25.3%), the need to consult the husband in 41(13.5%), fear of discussing the horrible picture of HIV with the counsellor in 18 (5.9%), and other reasons like lack of awareness as to the benefit or the presence of VCT and by chance in 8(2.6%) (29).

A study conducted in 2009 in Sudan, sampled 461 HCPs (nurses and doctors) to assess the knowledge, attitude and practice towards HIV and AIDS patients. The Study showed that 27% of the participants avoid seeing HIV patients and 30% give less care for HIV patient. While 60.9% believed that no need for patients to know he has been tested for HIV; 44.9% saw the HIV positive patients file labelled, and 70% said antiretroviral therapy is ineffective to treat HIV infection (41). A study conducted in Sudan showed 53% were discriminated by the health care providers. This negative behaviour makes them not to disclose their HIV status when seeking health care and avoid health care facilities as possible as they can (42).

Similarly in the study conducted in rural Blantyre and Balaka districts in Malawi, stigma and discrimination against those with HIV-infection, opposition from male partners commonly leading to divorce, long waiting time at voluntary counselling and testing centres, fear of being bewitched, cost of infant feeds and lack of privacy and confidentiality were the main barriers of PMTCT programme (43). A study conducted in urban and semi-urban parts of the Mbarara district, Uganda, identified the following issues: lack of access to antiretroviral therapy (ART) for HIV-infected women, a need to discuss with partner before decision and fear of partner's reaction (44).

2.2.4 Perceived Benefits of following PMTCT program

The pregnant woman, perception about benefit of PMTCT services for her and her child is an important factor for accessing and utilizing the PMTCT services. In the study done in north western Ethiopia showed perceived benefit of VCT were found to be independent significant predictors of readiness to VCT (39). A study conducted in India among 202 pregnant women, showed that 97% of the respondent did not perceive themselves at risk of HIV infection and because of this only 57% out of them tested for HIV (45).

2.2.5 Cues to utilize PMTCT

In the study done in western Amhara region, 99.8% and 96.9% of the pregnant women respectively said that they had heard about HIV/ AIDS and PMTCT before, many of them had multiple sources of awareness; namely, health facilities (91.1%), radio (75.8%), friends (43.9%), social ceremonies like “idir” (36.6%), relatives (34.6%), school teachers during their school ages (34.4%), newspaper (24.8%), and television (55.0%). Pregnant women who were first informed by school teachers were more likely to have voluntary counselling for HIV testing when compared to others sources. Meanwhile women who were informed first in

social ceremonies were less likely to have voluntary counselling for HIV testing when compared to other sources (29).

2.2.6 Utilization of PMTCT

According to EDHS report of 2011 percentage who received counselling on HIV, and HIV test during ANC, and the Results in Addis Ababa is 76 % (5). In the study done to identify factors underlying the poor uptake of PMTCT activities in Mzimba District, 60.4% received HIV test (46). In another study done to assess factors determining prenatal HIV testing for prevention of mother to child transmission in Dares Salaam, in Tanzania the results revealed that 68.1% of the participants had already had HIV testing (47). In the study done to assess acceptability of routine HIV testing ("opt-out") in antenatal services in two rural districts of Zimbabwe, it was reported to be 55% (48). A study carried out in Lilongwe, Malawi, found that HIV testing acceptance increased from 45% to 73% when rapid, same day testing was instituted (49).

2.2 Conceptual frame work

The conceptual framework is adopted from health belief model .the following diagram shows the overall relationship of the variables. Perceived Susceptibility of HIV/AIDS is the subjective probability (individual's perception) that "I" could get HIV/AIDS rather than other people or society as a whole. Perceived Severity of HIV/AIDS: is the subjective perception about the potential seriousness of HIV/AIDS in terms of pain or discomfort, disability, economic difficulties, death, etc., if action or desired behaviour is not taken. Perceived susceptibility of HIV/AIDS & perceived severity of HIV/AIDS together form the overall perceived threat of HIV/AIDS. Perceived benefits of utilizing PMTCT are the subjective perception about the benefits of utilizing PMTCT and its effectiveness (value). Perceived barriers to utilize PMTCT denote the barriers such as cost, side effects, culture, and convenience (beliefs that he/she can perform the behaviour or not) which have influence on utilization of PMTCT. Cues to utilize PMTCT are supposed to activate the already happened readiness and stimulate overt behaviour (e.g. mass media campaign, advice from others, postcard and news paper or magazine, articles, etc). Perceived Self-efficacy to utilize PMTCT denotes individual's beliefs about her capabilities to produce effects or the desired action (utilize PMTCT. Modifying factor includes demographic factors such as, age, ethnicity, marital status, etc. and Knowledge about HIV/AIDS, MTCT, PMTCT.

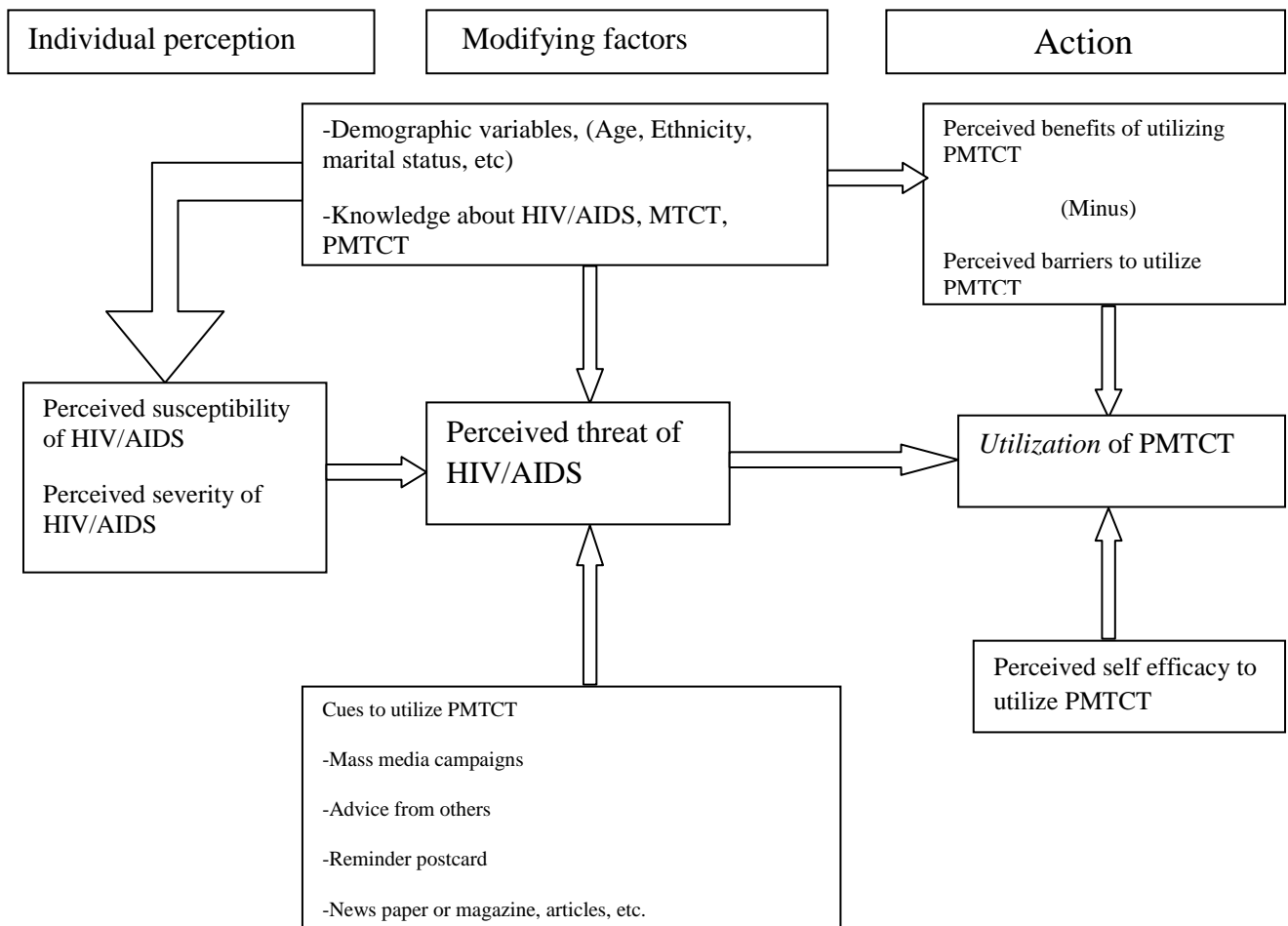


Figure: 1 Schematic diagram showing conceptual frame work of assessment of PMTCT service utilization and its associated factors among pregnant women attending ANC health centers of Addis Ababa, Ethiopia, 2013. The model is adapted from Janz & Becker (1984). (50)

2.3 Significance of the study

Studying utilization behaviour and its associated factors in those pregnant mothers following ANC helps to find factors which facilitate or inhibit the uptake of PMTCT service and promotive behaviours.

Further studies on assessment of PMTCT service utilization and its associated factors among pregnant women attending ANC are necessary so as to increase the utilization of PMTCT. Most studies conducted did not include some important factors for utilization of PMTCT service such as perception. Using theory/models in this research will help to understand important factors that are associated with PMTCT service. In addition it gives an insight to design programmes which will increase the acceptance of PMTCT service.

The findings from this study may possibly identify associated factors potentially related to low utilization of the service by pregnant mothers with specific behavioural causes. It may also bring suggestive solutions for policy makers and implementers in the area of this program.

Furthermore the study could possibly generate information in the area of the topic for researchers to investigate further empirical evidences to control underutilization.

Chapter three: objective

3.1. General objective

To assess PMTCT service utilization and its associated factors among pregnant women attending ANC in health centers of Addis Ababa, Ethiopia Using Health Belief Model.

3.2. Specific objectives

1. To assess the proportion of pregnant women's who utilize PMTCT service.
2. To assess perceived susceptibility of pregnant women's related to PMTCT.
3. To assess perceived severity of HIV/AIDS among pregnant women.
4. To assess perceived benefits towards utilizing PMTCT.
5. To assess perceived barriers related to utilizing PMTCT.
6. To identify the associated factors related to PMTCT utilization.

Chapter four: Methods

4.1 Study Area and Study Period

Addis Ababa, which is the capital city of Ethiopia & founded in 1886, covers an area of 520.14 km² at [9°1'48"N 38°44'24"E](#) with an average annual temperature and rainfall of 16.1°C, 1270mm respectively and elevation of 2,355 m (7,726 ft.). The population of the capital is 2.74 million with a male to female ratio of 47.64 % & 52.36 % and with an average of 4.1 persons per household. Addis Ababa is the headquarters for United Nations Economic Commission for Africa as well as most UN offices in Ethiopia. It is also the site of the [African Union](#) and is therefore often referred to as "the political capital of Africa", due to its historical, diplomatic and political significance for the continent (51). The city is divided into 10 administrative sub-cities. The PMTCT service was launched in 2003 in some health centers. According to Addis Ababa health bureau, currently a total of 41 public health facilities are providing PMTCT service in the Capital; 8 hospitals and 31 health centers and 2 MCH clinics. The study was conducted in Addis Ababa health institutions from September 1-30/ 2013 G.C.

4.2 Study Design

Institution based cross sectional study design using theory of health belief model and qualitative study was triangulated.

4.3 Population

4.3.1 Source Population

Quantitative

All pregnant women who came for ANC follow-up during the study period in public health centers, Addis Ababa.

4.3.2 Study Population

Quantitative

All sampled pregnant women who came for ANC follow-up during the study period in public health centers, Addis Ababa.

Qualitative

Purposefully selected counselors working in ANC/PMTCT department during the study period in public health centers, Addis Ababa

Inclusion criteria:

Quantitative study: All pregnant women who came for ANC follow-up during the study period in the health centers.

Qualitative study: All counsellors working in ANC/PMTCT department during the study period in public health centers, Addis Ababa.

Exclusion criteria:

Pregnant mothers unable and cannot respond due to illness.

4.4 Sample size Determination

Quantitative study: The sample size was determined using the formula for estimating a single population proportion. Sample size is calculated by taking the Proportion who received counseling on HIV and HIV test during ANC and the Results in Addis Ababa in EDHS, 2011 which was 0.76, with 95% confidence level and 5% margin of error to get an optimum sample size.

$$n = Z_{1-\alpha/2}^2 p (1-p) / d^2$$
$$Z = 1.96 \qquad p = 0.76$$
$$d = 0.05$$
$$n = \frac{1.96^2 \cdot 0.76(0.24)}{(0.05)^2} = \mathbf{280}$$

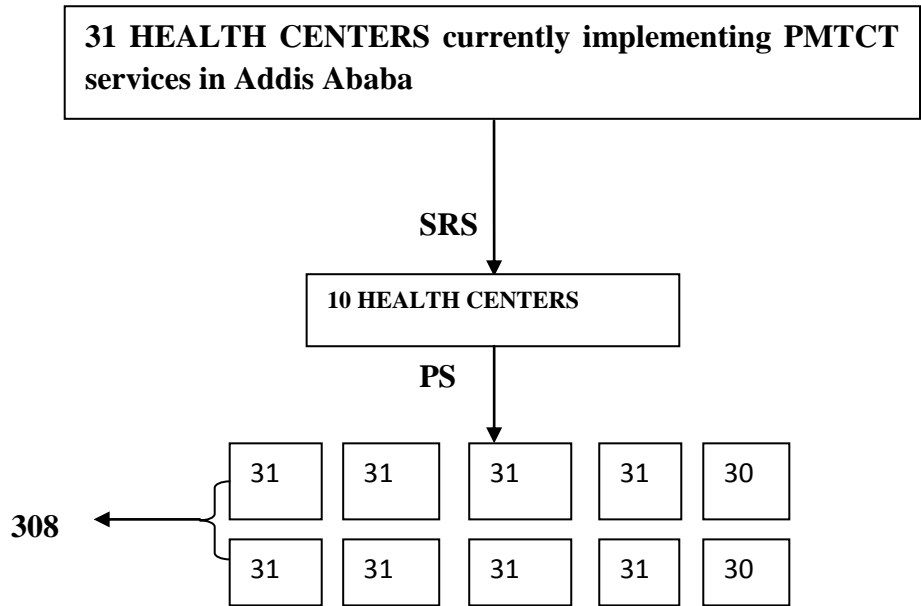
Where, n is the minimum sample size required; $Z_{1-\alpha/2}$ is the Z score corresponding to reliability coefficient of standard error of 5% at 95% confidence level. (Z=1.96); P is the

proportion who received counselling on HIV and HIV test during ANC and the Results in Addis Ababa in EDHS, 2011 which was 0.76 (5); and d is the absolute precision required on either side of proportion (d=0.05), giving minimum sample size of 280 with an estimated non response rate of 10% which is 28 was added and total minimum sample size gives=**308**

Qualitative study: Ten counselors were selected from each sampled health centers for in-depth interview.

4.5 Sampling Technique/procedure

Quantitative part: According to Addis Ababa health bureau, currently a total of 41 public health facilities are providing PMTCT service in the Capital; 8 hospitals and 31 health centers and 2 MCH clinics. For this study 10 health centers was selected randomly by using lottery method because the first institution that the pregnant mothers contact is health centers unless there is complication they will not go to hospitals. The numbers of study subjects from each selected health center was determined proportionally to number of PMTCT clients in each health care facility. Finally study subjects were selected consecutively till the total sample size 308 achieved.



Key; PS= proportional allocation to size
 SRS=simple random sampling

Fig2, schematic representation of sampling technique of the study in Addis Ababa

Qualitative part: convenience purposive sampling technique was employed to recruit the study subjects. In-depth interview was conducted with purposefully selected counsellors working on ANC department in the health centers.

4.6. Variables

4.6.1 Dependent Variable:

- Utilization of PMTCT by pregnant women following ANC

4.6.2 Independent Variables:

- Socio demographic characteristics and economic factors of clients
- Level of knowledge of pregnant mothers about HIV transmission, prevention, MTCT and PMTCT
- Perceived susceptibility to HIV
- Perceived severity of HIV
- Perceived barriers to proper utilization of PMTCT service
- Cues to action for PMTCT service
- Perceived self-efficacy of pregnant mothers
- Perceived benefits of PMTCT service utilization

4.7. Data collection Instruments

Pretested and semi structured questionnaire was used, based on health belief model as an instrument for quantitative study. The questionnaire was adopted from previously done similar researches (29, 39).

The instrument included socio-demographic characteristics (9 items), knowledge on HIV/AIDS, MTCT and PMTCT (6 items). All with a response format of 'yes', 'No' and 'don't know' assuming score of 'yes'=1, either of 'don't know' or 'No' = 0, one was assigned for correct answer and the score was calculated. Respondents were categorized as having good knowledge, mid level knowledge and poor knowledge if they answered 80%, 60-80% and <60% of awareness items consecutively. In addition, a set of items with a response options of five point likert scale ranging from strongly disagree (1 point) to strongly agree (5 point) were used to measure constructs of the HBM which were: perceived susceptibility (6 items), perceived severity (6 items), perceived benefit (6 items), perceived barriers (8 items), perceived self-efficacy (6 items) and cues to action (4 dichotomized 'yes',

‘no items). After reversed for negatively worded items to positively worded items, score was summed for each respective factor and Mean scores was computed and used to categorize (dichotomize) the variables (High: > mean score). To ensure reliability of the scale, internal consistency of items was seen separately for each construct using Chronbach’s alpha score of $\geq 70\%$ as cut of point. Similarly the outcome variable was measured using 4 score items (dichotomized ‘yes’, ‘no’).

For qualitative part of the study, in depth interview guide was prepared and used with the principal investigator. The data collectors were take a note.

4.8. Data Collection Procedure

The data was collected for 30 days in each study facility. Data was collected through face to face interview of PMTCT clients using Amharic version instrument. Ten trained health professionals were involved in data collection.

Data collection was supervised at each study health centers by 2 masters’ students as supervisors. For both data collectors and supervisors one day training was given on data collection instrument, interview technique and importance.

For qualitative study in-depth interview was conducted with counsellors from randomly selected health centers. The principal investigator conducted the interview. Before in-depth interview conducted Informed consent was obtained.

4.9. Data Quality Management

To keep the quality of data, first questionnaires were pretested. The pre-test was conducted in 5% of pregnant women who was on ANC follow upon one health centre away from the randomly selected health centers.

For data collection mid-level health professionals and supervisors were recruited .training was given for one day about the purpose, objectives and appropriate method of data collection of the study. Translation of instrument were made from English language to local language (Amharic language) and back to English language by different individuals who was blinded to the original version of the questionnaire (English version) in order to facilitate reliable responses to underline questions and keep the original meaning of the instrument. During data collection supervision was under taken in order to solve problems during the actual data collection phase and to check an incompleteness of data and to take prompt

corrective action. Principal investigator and supervisors were checked daily collected data for completeness.

4.10. Data Processing, analysis and presentation

First data was entered using Epi Info which has double entry verification then exported to SPSS statistical software 16.0. Data cleaning and editing was performed before proceeding to analysis. Mean scores of responses to a number of items were computed and used to dichotomize the variables. To ensure reliability of the scale, internal consistency of items were seen separately for each construct using Chronbanch's alpha score of $\geq 70\%$ as cut of point and those variables with value less than 70% were modified, changed with other items and deleted. Univariate analysis like Descriptive statistics: Mean, medians, standard deviation frequency and percentage was calculated for socio demographic variables and constructs of health belief model.

Bivariate analysis like binary logistic regression was conducted to investigate the association between each independent variable and the outcome variable. Variables that had statistically significant association at p- value of < 0.25 were analysed using multiple logistic regression. P-value of < 0.05 was considered to establish statistical significance.

Data analysis for qualitative study was followed the thematic analysis. Open coding was conducted on the in-depth interview transcripts by reading the entirety of each transcript several times. On coding; a list of categories developed from the data and continually refined until all the data was accounted for. Data was clustered under the established category headings and themes identified. The researchers reviewed the in-depth interview transcripts, categorizing scheme, and the themes.

The records from notes from in-depth interview of the participants were used throughout to illustrate the study findings.

4.11. Dissemination of Finding

The final report will be presented as partial fulfilment of the degree of Master of Public Health in health Education and Promotion to Jimma University College of Public Health and Medical Sciences. Copies of the study will be offered to Federal Ministry of Health HIV/AIDS prevention and control office Addis Ababa Regional Health Bureau, study health centers. Attempts will be made to disseminate the findings through publication on local and international journals and presentation on scientific conferences

4.12. Ethical Consideration

Primarily, ethical clearance was ensured from Jimma University College of Public Health and Medical Sciences' research outcome ethical review committee. Then formal letter was sought to Addis Ababa health bureaus and approval letter was addressed to respective Health Centers. All respondents were asked for their willingness of participation in the study and verbal consent was obtained after confidentiality of the information was assured. Questionnaire was labelled with questionnaire ID, not to the respondents' name. They can withdraw at any time even during interviews if they do not want to continue. The questionnaire was administered in privacy by using a separate room/area within the targeted facilities. The recorded data was deleted after transcription.

4.13. Operational Definitions

PMTCT utilization: - Pregnant mother to undergo counselling, testing for HIV and taking the test result and level of acceptance of take home Nevirapine measured by 4 score questions.

Perceived Severity of HIV: -Degree of seriousness, pregnant mothers perceive HIV creates for her and her unborn in terms of physical harm or interference with social functioning, after reversed for negatively worded items to positively worded items it was measured by summed score of related 6 perception items on 5 -point Likert's scale. Then it was categorized as 'low' and 'high' after computing the mean score of responses (High: > mean score).

Perceived Susceptibility to HIV:- Degree to which pregnant mothers perceive that she and her unborn is vulnerable to HIV or its complications, After reversed for negatively worded items to positively worded items it was Measured by summed score of related 6 perception items on 5 -point Likert's scale. Then it was categorized as 'low' and 'high' after computing the mean score of responses (High: > mean score).

Perceived Benefits of following PMTCT service: -Pregnant mother's perception of benefits associated with following the program of PMTCT, after reversed for negatively worded items to positively worded items it was measured by summed score of related 6 perception items on 5 -point Likert's scale. Then it was categorized as 'low' and 'high' after computing the mean score of responses (High: > mean score).

Perceived Barriers of following PMTCT service: - Individual's evaluation of potential barriers to follow the program of PMTCT, which can be physical, psychological or financial,

after reversed for negatively worded items to positively worded items it was measured by summed score of related 8 perception items on 5 -point Likert's Scale. Then it was categorized as 'low' and 'high' after computing the mean score of responses (High: > mean score).

Cues to utilize PMTCT: -The factors which trigger pregnant mothers to follow the program related to PMTCT as measured by summed score of 4 score questions. Then it was categorized as 'low' and 'high' after computing the mean score of responses (High: > mean score).

Perceived Self Efficacy to follow PMTCT: - The perception that a pregnant mother has the ability to change her behaviour towards positive HIV promotive, preventive rehabilitative & curative practices, After reversed for negatively worded items to positively worded items it was measured by summed score of related 6 perception items on 5 -point Likert's scale. Then it was categorized as 'low' and 'high' after computing the mean score of responses (High: > mean score).

Knowledge about HIV and PMTCT and Its Treatment: -Pregnant mothers awareness of HIV and PMTCT, its approach, mode of transmission, preventive approach measured by 6 score questions. One was assigned for correct answer and the score was calculated. Respondents was categorized as having high level knowledge, mid level knowledge and low level knowledge if they answered 80%, 60-80% and <60% of awareness items consecutively.

Modifying Factor: - Factors like socio-demographic variables and knowledge that modify PMTCT service utilization of pregnant mothers attending ANC

Chapter Five: Result

5.1. Socio demographic characteristics

Among 308 pregnant women recruited in the study, 301 were interviewed which was with a response rate of 97.7%. Out of the total 179(59.5%) respondents was Orthodox in religion and 150(49.8%) Amhara in ethnicity and the mean age of the study subjects was 29.42 years with a standard deviation of ± 6.974 years. Married women accounted 242 (80.4%). Most 150(49.8%) had 2 to 4 pregnancies. Most of the respondents 118(39.2%) were in second trimester of current pregnancy. Regarding occupation and education, 78(25.9%) were house wife and 129(42.9%) were attended high school (grades 7-12) (Table 1).

Table 1:- Socio-demographic characteristics of pregnant women attending antenatal care in the public health centers, Addis Ababa, Ethiopia, 2014.

Variables	Frequency (n=301)	percentage	
Age (years)	16-20	27	9
	21-25	78	25.9
	26-30	81	26.9
	31-35	50	16.6
	>35	65	21.6
Gravidity	Primigravida	121	40.2
	2-4	150	49.8
	>4	30	10
Gestational age	First trimester	84	27.9
	Second trimester	118	39.2
	Third trimester	99	32.9
Marital status	married	242	80.4
	Single	28	9.3
	Separated	13	4.3
	Widowed	10	3.3
	Divorced	8	2.7
Ethnicity	Amhara	150	49.8
	Oromo	64	21.3
	Tigre	35	11.6
	Gurage	30	10
	Others*	22	7.3
Religion	Orthodox	179	59.5
	Protestant	48	15.9
	Catholic	39	13
	Muslim	34	11.3
	Other	1	0.3
Educational	Unable to read and write	15	5
	Attended elementary school (Grades 1– 6)	68	22.6

Occupation	Attended high school (Grades 7 – 12)	129	42.9
	Attended University/college	89	29.6
	Housewife	78	25.9
	Other personal jobs/self employed	66	21.9
	Gov. Employee	54	17.9
	Merchant	34	11.3
	Student	26	8.6
	Daily labourer	25	8.3
	NGO/private employee	10	3.3
	Unemployed	6	2
Income	Others	2	0.7
	0-900	152	50.5
	900-2000	85	28.2
	>2000	64	21.3

*Gambela, Afar and Somali

5.2. Knowledge

Majority of the respondents 296(98.3%) had heard about HIV from this 138(46.6%) had low level knowledge, 92(31.08%) had midlevel knowledge and 66(22.29%) had high level knowledge about HIV transmission, prevention, MTCT and PMTCT.

5.3. Perception

Perceived susceptibility was found low in 172(57.1%) but perceived severity was high in 177(58.8%) of respondents on aggregate perceived threat was low in 162(53.8%) of respondents. Perceived benefit was found low in 160(53.2%) and perceived barrier was found low in 169(56.1%) of study subjects. It is also supported by in-depth interview, some of the respondents said that the perceived reasons for declining from HIV test is associated to facility, like lack of HIV test kits because kits are not provided on time with enough amounts, fear of discrimination and stigma, don't be known by the family and partner, fear of their partner. Perceived self efficacy was found comparable with high in 153(50.8%) and low in 148(49.2%) respondents. Cues to action was also found comparable with low in 156(51.8%) and high in 145(48.2%) of study subjects. Regarding utilization of PMTCT 135(44.9%) utilized PMTCT.

Table 2:- PMTCT service utilization and Perceptions towards HIV/PMTCT among Pregnant Women Attending Antenatal Care in the public health centers, Addis Ababa, Ethiopia, 2014.(N=301)

Variables	Frequency	Percent	Mean	Standard Deviation
Utilization of PMTCT				
Utilized	135	44.9	0.45	0.498
Not utilized	166	55.1		
Perceived susceptibility				
High	129	42.9	1.57	0.496
Low	172	57.1		
Perceived Severity				
High	177	58.8	1.41	0.493
Low	124	41.2		
Perceived threat				
High	139	46.2	1.54	0.499
Low	162	53.8		
Perceived benefit				
High	141	46.8	1.86	0.351
Low	160	53.2		
Perceived barrier				
High	132	43.9	1.56	0.497
Low	169	56.1		
Perceived self efficacy				
High	153	50.8	1.49	0.501
Low	148	49.2		
Cues to action				
High	145	48.2	1.52	0.5
Low	156	51.8		

5.4. PMTCT service

Regarding PMTCT service, 239(79.4%) had ever been counselled for HIV, 200(66.4%) had ever been tested for HIV and 187(62.1%) did go to collect the result. It is also supported by in-depth interview, majority of the respondents said that uptake of VCT by pregnant women is high because awareness creation will be given prior to HIV screening, pregnant mothers aware properly, the test is done in ANC room and to protect their child from being infected with HIV (to have HIV free baby). Some of the respondents said that shortage of test kit will decrease the number of pregnant women tested.

Regarding cues to action to utilize PMTCT, most of the 124(41.2%) get message from Radio followed by 111(36.9%) from health professional, 107(35.5%) from Television, 22(7.3%)

from newspaper, 9(3%) from poster, 9(3%) from parents, 8(2.7%) from school and 6(2%) from religious institute.

Among the study subjects, 221(73.4%) said that they will take medication if positive for HIV to prevent transmission of HIV to her unborn fetus. It is also supported by in-depth interview, majority of the respondents said that the practice of pregnant women about ARV treatment is good because so as to have HIV free baby and they have awareness about the use of ARV.

- A 30 year respondent replied that
“.....almost all HIV positive pregnant women take ARV drug so as to have HIV free baby.....”

But 80(26.6%) had said that they will not take medication because 41(13.6%) don't believe that ARV prophylaxis is effective, 45(15%) fear of being identified as PLWHA by people (husband, family, or neighbour) and 23(7.6%) fear of drug side effect, and some of the respondents of in-depth interview said that pregnant women don't want to take the drug due to fear of discrimination and stigma, don't be known by the family and partner, fear of their partner, drug side effects, lost follow up, they prefer to go to holly water.

From the study subjects, 213(70.8%) stop breastfeeding and provide formula food (if affordable) for feeding an infant born to HIV positive mother, 85(28.2%) continue breastfeeding if the mother is poor, 76(25.2%) mix breast as well as supplementary feeding and 92(30.6%) provide the newborn with whatever is available in the house. 287(95.3%) had said that they will come to have follow up counselling.

Suggested measures by interviewed counselors to scale up the PMTCT service

Majority of the respondents suggested that to scale up PMTCT service the following suggestions were given, working closely with health extension workers to minimize lost follow ups, giving health education and promotion using different medias, giving training for all staffs working in ANC room, availing HIV test kits and other supplies which are relevant for the program, avoiding interruption of HIV testing and availing different kinds of resources for the program.

5.5. Bivariate Analysis Result

In Bivariate analysis of the socio demographic variables and knowledge with utilization of PMTCT, age group from 21-25(COR=2.761, P-value=0.004) and from 26-30(COR=3.092, P-value=0.001) was found to have statistically significant association with utilization of PMTCT by pregnant mothers. Pregnant mothers who have one child (Primigravida) was also positively associated with utilization of PMTCT (COR=2.552, P-value=0.024). (Table 3)

There was no significant difference found in utilization of PMTCT by pregnant mothers amongst gestational ages, income category, educational level, occupational category and knowledge category of the studied population. (Table 3)

There is also statistically significant association between marital status and utilization of PMTCT (COR=0.077, P-value=0.016). (Table 3)

Among the perception characteristics, perceived severity (COR=1.655, P-value=0.033), perceived threat (COR=1.592, P-value=0.048) and perceived self efficacy (COR=2.490, P-value=<0.001) was found to be positively associated with utilization of PMTCT. Perceived susceptibility, perceived benefit, perceived barrier and cues to action did not show any significant association with utilization of PMTCT by the study participant. (Table 4)

Table 3:- PMTCT service utilization versus socio demographic and knowledge variables in the public health centers, Addis Ababa, Ethiopia, 2014.

Variables	Utilization		COR (95% CI)	p-value
	Utilized (N %)	Not utilized (N %)		
Age category				
16-20	14(51.9)	13(48.1)	1.727(0.671, 4.445)	0.257
21-25	51(65.4)	27(34.6)	2.761(1.394, 5.465)	0.004*
26-30	55(67.9)	26(32.1)	3.092(1.562, 6.121)	0.001*
31-35	23(46)	27(54)	1.245(0.590, 2.628)	0.565
>35**	27(41.5)	38(58.5)	1	
No of child				
Primigravida	80(66.1)	41(33.9)	2.552(1.130, 5.761)	0.024*

2-4	77(51.3)	73(48.7)	1.379(0.626, 3.039)	0.425
>4**	13(43.3)	17(56.7)	1	
Gestational age				
1 st trimester	46(54.8)	38(45.2)	0.856(0.476, 1.539)	0.603
2 nd trimester	66(55.9)	52(44.1)	0.897(0.523, 1.540)	0.694
3 rd trimester**	58(58.6)	41(41.4)	1	
Income category				
0-900	79(52)	73(48)	0.842(0.468, 1.515)	0.565
900-2000	55(64.7)	30(35.3)	1.426(0.734, 2.772)	0.295
>2000	36(56.2)	28(43.8)	1	
Educational level				
Unable to read and write	10(66.7)	5(33.3)	1.179(0.205, 6.789)	0.854
Grades 1– 6	34(50)	34(50)	0.589(0.31, 1.119)	0.106
Grades 7 – 12	70(54.3)	59(45.7)	0.699(0.402, 1.215)	0.204
Attended University/college**	56(62.9)	33(37.1)	1	
Marital status				
Married**	143(59.1)	99(40.9)	1	
Single	13(46.4)	15(53.6)	0.6(0.273, 1.316)	0.203
Separated	10(76.9)	3(23.1)	2.308(0.619, 8.599)	0.213
Divorced	3(37.5)	5(62.5)	0.415(0.097, 1.778)	0.236
Widowed	1(10)	9(90)	0.077(0.10, 0.617)	0.016*
Knowledge category				
Low**	80(56.7)	61(43.3)	1	

Midlevel	54(58.1)	39(41.9)	1.056(0.622, 1.793)	0.841
High	36(53.7)	31(46.3)	0.885(0.494, 1.589)	0.683

*Significant at $\alpha < 0.05$, ** Reference category

Table 4:- PMTCT Service Utilization versus Behavioural Factors, Addis Ababa, Ethiopia, 2014.

Theoretical variables	utilization		COR (95% CI)	p-value
	Utilized N (%)	Not utilized N (%)		
Perceived susceptibility				
High	79(61.2)	50(38.8)	1.406(0.884, 2.236)	0.15
Low**	91(52.9)	81(47.1)	1	
Perceived severity				
High	109(61.6)	68(38.4)	1.655(1.040, 2.634)	0.033*
Low**	61(49.2)	63(50.8)	1	
Perceived threat				
High	87(62.6)	52(37.4)	1.592(1.004, 2.526)	0.048*
Low**	83(51.2)	79(48.8)	1	
Perceived Benefit				
High	27(62.8)	16(37.2)	1.357(0.698, 2.640)	0.368
Low**	143(55.4)	115(44.6)	1	
Perceived barrier				
High	70(53)	62(47)	0.779(0.492, 1.233)	0.287
Low**	100(59.2)	69(40.8)	1	
Perceived self efficacy				
High	103(67.3)	50(32.7)	2.490(1.560, 3.976)	<0.001*
Low**	67(45.3)	81(54.7)	1	
Cues to action				
High	87(60)	58(40)	1.319(0.835, 2.085)	0.235
Low**	83(53.2)	73(46.8)	1	

*Significant at $\alpha < 0.05$, ** Reference category

5.6. Multivariable Analysis Result

Using binary logistic analysis, age group 26-30 and marital status which is separated ones, proved to have an independent significant association with utilization of PMTCT by pregnant mothers. Pregnant mothers in the age group from 26-30 were found to be 3 times to utilize PMTCT than age groups >35, AOR=2.648, 95 %CL (1.186, 5.911) (Table 5). Marital status also showed an independent significant association with utilization of PMTCT. Respondents who are widowed were found to decline utilize PMTCT by 90% than married women, AOR=0.101, 95%CL (0.012, 0.841).

Among the perception characteristics of the study subjects perceived barrier and perceived self efficacy were found to have an independent significant association with utilization of PMTCT. Study subjects having high perceived barrier was found to decline utilize PMTCT by almost 50% than low perceived barriers, AOR=0.479, 95%CL (0.276, 0.833). Having high perceived self efficacy was found to be 2 times to utilize PMTCT than having low perceived self efficacy, AOR=2.439, 95%CL (1.427, 4.167)(Table 5).

Table 5:- Association of PMTCT service utilization versus socio demographic, Behavioural Factors and knowledge variables in the public health centers, Addis Ababa, Ethiopia, 2014.

Variables	OR (95% CI)		
	Crude	Adjusted	p-value
Age category			
16-20	1.727(0.671, 4.445)	1.327(0.437, 4.024)	0.618
21-25	2.761(1.394, 5.465)*	2.173(0.905, 5.222)	0.083
26-30	3.092(1.562, 6.121)*	2.648(1.186, 5.911)	0.017*
31-35	1.245(0.590, 2.628)	1.389(0.592, 3.262)	0.45
>35**	1	1	
Marital status			
Married**	1	1	

Single	0.60(0.273, 1.316)	0.502(0.215, 1.171)	0.111
Separated	2.308(0.619, 8.599)	2.201(0.564, 8.586)	0.256
Divorced	0.415(0.097, 1.778)	0.662(0.144, 3.051)	0.596
Widowed	0.077(0.10, 0.617)*	0.101(0.012, 0.841)	0.034*
Perceived barrier			
High	0.779(0.492, 1.233)	0.479(0.276, 0.833)	0.009*
Low**	1	1	
Perceived self efficacy			
High	2.490(1.560, 3.976)*	2.439(1.427, 4.167)	0.001*
Low**	1	1	

*Significant at $\alpha < 0.05$, ** Reference category

Chapter six: Discussion

Out of 301 women interviewed 172(57.1%) had get message about Prevention of mother to child transmission of HIV and 166(55.1%) not utilized prevention of mother to child transmission of HIV. Utilization of prevention of mother to child transmission of HIV service by pregnant women were significantly associated with age group 26-30 years, AOR=2.648, 95 %CL (1.186, 5.911) and marital status which is widowed, AOR=0.101, 95%CL (0.012, 0.841). Most women 172(57.1%) had low perceived susceptibility to HIV, 160(53.2%) had low perceived benefit and 169(56.1%) had low perceived barrier. Among the perception characteristics perceived barrier, AOR=0.479, 95%CL (0.276, 0.833) and perceived self efficacy, AOR=2.439, 95%CL (1.427, 4.167) had independent significant association with utilization of PMTCT service.

In this study age group in the age category between 26-30 were found to be independent factor for utilization of PMTCT, Pregnant mothers in the age group between 26-30 were found to be almost 3 times to utilize PMTCT than the other age groups, and it is similar with the study conducted in Khartoum in "2007" (31) and in Khartoum 2010 (28). Whereas inconsistent with study " in Botswana", (32) showed that pregnant women age 35 years are likely accepting HIV counselling and testing (HTC) than the younger women. The same study suggests that, younger pregnant women, most likely to be in their first pregnancy and first contact with antenatal care clinic compare to the older women (32). In the study done in Dilchora Hospital, Dire Dawa, East Ethiopia in 2006 showed older age groups (≥ 30 years) were 78% less likely to accept voluntary HIV testing as compared to the younger ones (≤ 19 years) (27). This might be due to difference in study area.

There is also statistically significant association between marital status and utilization of PMTCT. Marital status showed an independent significant association with utilization of PMTCT. Respondents who are widowed were found to decline utilize PMTCT by 90% than married women. And it is consistent with the study done in Dilchora Hospital, Dire Dawa, East Ethiopia in 2006 (27).

There was no significant difference found in utilization of PMTCT by pregnant mothers amongst income category in our study but a study done in Hawassa, Ethiopia indicates socioeconomic factors compel HIV positive pregnant women to stay away from health

facilities when they are due to give birth (26). In the study done in Dilchora Hospital, Dire Dawa, East Ethiopia in 2006 indicates individuals with higher income were more likely to have HIV testing as compared to individuals with lower income (27) this might be due to difference in study area, study design and study period.

There was no significant difference found in utilization of PMTCT by pregnant mothers amongst educational level and it is inconsistent with study conducted in the Sudan, in 2010 showed that acceptance of the HIV testing among 500 pregnant women, attending ANC service is high among the educated pregnant women compared to none educated pregnant women (28). Also, another study conducted to assess Gender issues in HIV/AIDS epidemiology in Sub-Saharan Africa, Wagadu, 2005 suggested that low literacy of the pregnant women, was one of the factors that prevent pregnant women from utilized the PMTCT services in sub-Saharan Countries (33). In the study done in western Amhara region, pregnant women who had formal schooling were more likely to undergo voluntary HIV counselling compared to those without formal schooling (30). This might be due to difference in study area in which majority of our study subjects are in the group of attended high school (grades 7-12).

Perceived severity was high 177(58.8%) and it was found to be positively associated with utilization of PMTCT and it is consistent with the study done in Los Angeles County health survey, 2005 (41, 40). On aggregate perceived threat were low 162(53.8%) and was found to be positively associated with utilization of PMTCT.

Perceived self efficacy was found comparable high 153(50.8%) and low 148(49.2%) and was found to be positively associated with utilization of PMTCT and were found to have an independent significant association with utilization of PMTCT, having high perceived self efficacy was found to be 2 times to utilize PMTCT than having low perceived self efficacy.

Perceived barrier was low 169(56.1%) and were found to have an independent significant association with utilization of PMTCT. Study subjects having high perceived barrier was found to decline utilize PMTCT by almost 50% than low perceived barriers. It is also supported by in-depth interview, some of the respondents said that the perceived reasons for declining from HIV test is associated to facility, like lack of HIV test kits because kits are not provided on time with enough amounts, fear of discrimination and stigma, don't be known by

the family and partner, fear of their partner. It is consistent with the studies done (26, 30, 42, 43, 44, and 45).

Nearly, 239(79.4%) had ever been counselled for HIV, 200(66.4%) had ever been tested for HIV and 187(62.1%) did go to collect the result. 221(73.4%) said that they will take medication if positive for HIV to prevent transmission of HIV to her unborn fetus. It is also supported by in-depth interview, majority of the respondents said that uptake of VCT by pregnant women is high because awareness creation will be given prior to HIV screening, pregnant mothers aware properly, the test is done in ANC room and to protect their child from being infected with HIV (to have HIV free baby). Some of the respondents said that shortage of test kit will decrease the number of pregnant women tested, and regarding utilization of PMTCT 135(44.9%) utilized, and it is consistent with the studies done (47, 48, 49, 50, and 5).

Majority of the respondents 296(98.3%) had heard about HIV and 172(57.1%) of the respondents had ever get message about PMTCT and it is comparable with study done in western Amhara region (30).

Strength of the study

- ✓ Multiple methods used in the study. The quantitative study was triangulated with qualitative study to safeguard against the accusation that the study's findings are simply an artifact of a single method or a single source.

Limitation of the study

- ✓ Data collected from health facilities may not be representative of the community at large.
- ✓ Information (interviewer) bias is a possibility. To secure confidentiality, data collection was made by the counselors in the PMTCT services of the respective sites. As key informants, the counselors are likely to know some of the variables of study.

Chapter seven: Conclusion and recommendation

7.1. Conclusion

This study has found that more than half of the study subjects were utilized PMTCT. Age group 26-30, marital status which is separated, perceived barrier and perceived self efficacy were observed as independent factors for utilization of PMTCT by the studied population. Study subjects having high perceived barrier were found to be limiting factor for utilizing PMTCT service. Study subjects having high perceived self efficacy, being in the age group between 26-30 and marital status which is separated ones were found to be triggering factor for utilizing PMTCT service. Fear of their partner, stigma and discrimination, don't be known by the family and partner was regarded as a barrier for utilizing PMTCT. Scale up of the program may be possible through working closely with health extension workers to minimize lost follow ups, giving health education and promotion using different medias, giving training for all staffs working in ANC room, availing HIV test kits and other supplies which are relevant for the program and avoiding interruption of HIV testing.

7.2. Recommendations

From the finding of the study, the following recommendations are suggested:

The Federal Ministry of Health should

- Strengthen prevention and control program on HIV, MTCT, by giving health education and promotion on HIV transmission, prevention, MTCT, PMTCT in all health facilities so as to increase the number of clients using PMTCT service.
- Strengthen PMTCT service in the health extension program so as to prevent lost follow ups and increase the number of utilizes.
- Avail different materials for running PMTCT service without interruption.
- Do a broader population based survey to adequately assess the national figure of PMTCT service utilization and explore the associated factors for low utilization.

The Addis Ababa Health bureau should

- Give basic and refresher training for all staffs working at ANC/PMTCT department so as to decrease missed opportunities.
- Conduct awareness creation program by different Medias on HIV, MTCT and PMTCT.

The Health Facilities should

- Do HIV counseling testing for pregnant women on regular basis without interruption.

Annexes I

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Annex II: Instruments

Section I: Questionnaire English version

**JIMMA UNIVERSITY COLLEGE OF PUBLIC HEALTH & MEDICAL SCIENCE,
DEPARTMENT OF HEALTH EDUCATION AND BEHAVIORAL SCIENCES**

Interviewer administered questionnaire to assess PMTCT service utilization and its associated factors among pregnant women attending ANC in health centers of Addis Ababa, Ethiopia Using Health Belief Model.

Consent form for face to face interview:

My name is _____ and I am one of the data collectors from Jimma university postgraduate research team. We are conducting a study on assessment of PMTCT service utilization and its associated factors among pregnant women attending ANC in health centers of Addis Ababa, Ethiopia Using Health Belief Model. You are randomly selected to be in this study. We would very much appreciate your participation in this study if you are willing. The information gain from this study will help prevention of mother to child transmission of HIV in the city. The study takes between 30 to 45 minutes to complete. Whatever information you provide will be kept strictly confidential and will not be shown to other person. Participation in this survey is voluntary and you can choose not to answer any individual question or all of the questions. However, we hope that you will participate fully in this study since your views are important.

So, are you willing to participate in the study? Yes (.....) NO (.....)

If the answer is yes, thank the respondent and start the interview

If the answer is No, thank the respondent and go to the next client.

For further information contact the principal investigator with the following address:

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Email: fikrework@gmail.com

Jimma University

Checked by supervisor

Name _____

Signature _____

Date _____

Part 1: Identification

Instruction:-complete the interviewer name, date of interview, name of health center and Questionnaire ID.

S.No	Questions	Response	Skip
101	Name of interviewer		
102	Date of the interview	(dd/mm/yy) [] [] []	
103	Name of the health center		
104	Questionnaire ID		

Part 2: Socio demographic and Economic information

S.No	Questions	Response	Skip
201	How old are you?	_____years	
202	How many children do you have?	_____	
203	What is your gestational age?	_____Weeks	
204	What is your average house hold income per month?	_____ETB	
205	What is your religion?	1. Orthodox 2. Protestant 3. Catholic 4. Muslim 5.Other, specify_____	
206	What is your ethnic group?	1.Gurage 2.Amhara 3.Oromo 4.Tigre 5.Gambela 6.Afar 7.somali, 8.other, specify_____	
207	What is the highest educational level you completed?	1. Unable to read and write 2. Only able to read and write 3. Attended elementary school (Grades 1– 6 4. Attended high school (Grades 7 – 12) 5. Attended University/college	
208	What is your current marital Status?	1) Married (2) Single (3) Separated (4) Divorced (5) Widowed	
209	What is your current Occupation?	1. Daily labourer 2. Merchant 3. Gov. Employee 4. Other personal jobs/self employed 5. NGO/private employee 6. street dwellers 7. Student 8. Housewife 9. Unemployed 10. others, specify_____	

Part 3: Knowledge on HIV transmission, prevention, MTCT and PMTCT

S.No	Questions	Response	Skip
301	Have you ever heard about HIV?	Yes=1 No=0	
302	Do you know the modes of HIV transmission?(Do not read, Circle what she says)	1. Sexual intercourse Yes=1,No=0 2. Blood and blood products Yes=1,No=0 3. MTCT Yes=1,No=0 4. injections and blades Yes=1,No=0 5. I do not know No=0	
303	Do you know the methods how to prevent oneself from being infected? (Do not read, Circle what she says)	1. Abstinence Yes=1,No=0 2. Faithful one to one relationship Yes=1,No=0 3. use of condom Yes=1,No=0 4. I do not know No=0	
304	Do you think that a healthy looking person can have HIV in his/her blood?	1. Yes 2. No 3. I do not know No=0	
305	Do you know the time when HIV is transmitted from pregnant mother to her new born? (Do not read, Circle what she says)	1. During pregnancy Yes=1,No=0 2. During breast feeding Yes=1,No=0 3. During labor and delivery Yes=1,No=0 4. I do not know No=0	
306	What can a pregnant woman do to reduce the risk of transmission of HIV to her new born? (Do not read, Circle what she says)	1. ARVs Yes=1,No=0 2. Avoid breast feeding Yes=1,No=0 3. I do not know No=0	

Part 4: Perceived susceptibility

S.No	Questions	SA	A	NU	DA	SDA
401	I think if a HIV patient misses medication taking she may develop treatment failure and can transmit to her child.					
402	In my idea if patient is exposed to extraneous exercise ,less nutritious food items and substance use she may develop poor prognosis					
403	I think that my life style (behaviour) make me and my child prone to get HIV.					
404	I think my child is at risk of HIV as a result of my disease.					
405	I think once can recover from HIV without treatment					
406	If I used to avoid risk behaviours I think I did have less chance to get HIV and transmit to my child.					

*SA= strongly agree *A=Agree *NU=Neutral *SDA=Strongly Disagree

Part 5: Perceived severity

S.No	Questions	SA	A	NU	DA	SDA
501	I think HIV is serious illness it can cause death to me and my child.					
502	It may develop treatment failure and drug resistance to me and my child.					
503	I think if HIV patient is susceptible to unavoidable illness complications patient's positive treatment outcome is questionable					
504	In my opinion, if a pregnant mother gets HIV, she can transmit to her child.					
505	In my idea my Child is at risk of HIV.					
506	My HIV is changing my role and relationship with/in the family, community in every aspect.					

*SA= strongly agree *A=Agree *NU=Neutral *SDA=Strongly Disagree

Part 6: Perceived benefit to proper utilization of PMTCT service

S.No	Questions	SA	A	NU	DA	SDA
601	I think taking ARV drugs minimizes HIV risk to child					
602	I think minimizing risky behaviour can prevent HIV infection to the mother and her child.					
603	I think pregnant mother with HIV could minimize risk of infection to her child , if she adhere to therapeutic counselling like medication, activity, diet etc					
604	I think my child will be safe if I use PMTCT services					
605	Taking any promotive action can save my money.					
606	Promotive action can make me free from anxiety secondary to HIV complication.					

*SA= strongly agree *A=Agree *NU=Neutral *SDA=Strongly Disagree

Part 7: Perceived barrier to proper utilization of PMTCT service

S.No	Questions	SA	A	NU	DA	SDA
701	I think ARV drugs can harm my health condition in the future					
702	I think exposing myself and my child to someone in the family or in work place can spoil role and relation ship					
703	I think missing appointments of any form will induce noting up on me once symptoms are relieved during the course of therapy					
704	I think repeated episodes of vomiting less than an hour following swallowing of ARV drugs may have an effect for my cure.					

705	I think taking alcohol occasionally might be helpful to avoid potential mood disturbance during the course of therapy.					
706	I think I can treat myself if I get HIV complication					
707	I think it is boring to remember & take ARV drugs daily at the same time.					
708	I think it is resource consuming to go to health facility for the PMTCT services.					

*SA= strongly agree *A=Agree *NU=Neutral *SDA=Strongly Disagree

Part 8: Perceived self-efficacy of pregnant mothers

S.No	Questions	SA	A	NU	DA	SDA
801	I believe I can talk with my care taker about caring my HIV condition					
802	I believe I can follow my care taker's prescription					
803	I believe I can follow my appointments for medication check-up without reminder from my care taker or significant others					
804	I believe I can get HIV care follow up as per my schedule or any time necessary					
805	I believe I can follow ARV therapy with full dose without assistance from health care providers or supporters					
806	I believe I can completely quit any previous substance use like (alcohol, cigarette, khat, shisha, etc) if any without advice from others					

*SA= strongly agree *A=Agree *NU=Neutral *SDA=Strongly Disagree

Part 9: Cues to action for PMTCT service

S.No	Questions	Response	Skip
901	Have you ever get message about PMTCT?	Yes=1 No=0	
902	If yes Main Source of information		
	Health professionals	Yes=1 No=0	
	Radio	Yes=1 No=0	
	Poster	Yes=1 No=0	
	news paper	Yes=1 No=0	
	Television	Yes=1 No=0	
	Parents	Yes=1 No=0	
	Religious institute	Yes=1 No=0	
	From school	Yes=1 No=0	
903	Have you ever got HIV positive baby	Yes=1 No=0	
904	Have your family member ever get HIV positive baby	Yes=1 No=0	

Part 10: Utilization of PMTCT service

S.No	Questions	Response	Skip
1001	Have you ever been counselled for HIV?	Yes=1 No=0	
1002	Have you ever been tested for HIV?	Yes=1 No=0	
1003	Did you go to collect the result?	Yes=1 No=0	
1004	Suppose your test was positive for HIV, would you take Medication to prevent transmission of HIV to your yet un born fetus?	Yes=1 No=0	→1005
1005	If the response is No, Why Not?		
	1. I don't believe that ARV prophylaxis is effective	Yes=1 No=0	
	2. Fear of being identified as PLWHA by people (husband, family, or neighbour)	Yes=1 No=0	
	3. Fear of Drug side effect	Yes=1 No=0	
	4. I do not know.	No=0	
	5. Other (specify)		
1006	What would be the best option for feeding an infant born to HIV positive mother?		
	1. Stop breastfeeding and provide formula food (if affordable)	Yes=1 No=0	
	2. Continue breast-feeding if the mother is poor	Yes=1 No=0	
	3. Mix both breast as well as supplementary feeding	Yes=1 No=0	
	4. Provide the newborn with whatever is available in the house	Yes=1 No=0	
	5. I do not know	No=0	
	6. Other (specify)		
1007	Suppose you are HIV + do you come to have follow up counselling?	Yes=1 No=0	

Thank you so much

Section II: Data collection instrument for qualitative study

Informed Consent Form for In-depth Interviews:

My name is ----- . I am working temporarily as a data collector from Jimma university postgraduate research team. We are conducting a study on assessment of PMTCT service utilization and its associated factors among pregnant women attending ANC in health centers of Addis Ababa, Ethiopia Using Health Belief Model. A number of people are needed in this study for which it is being conducted elsewhere. During the interview you will be asked some short questions about HIV and AIDS, PMTCT, pregnancy, and health care, etc. You were selected to participate in this study because you are recognized as one of the best resourceful persons in the issues for generating constructive ideas. Your answers will be recorded on a survey questionnaire. You may feel uncomfortable or experience some emotional stress from being asked some of the personal questions. Your name and any other personal identifiers will not be attached/ recorded to your interview. All the data obtained will be kept strictly confidential by using only code numbers and will be stored in locked file cabinets at Jimma University, to be accessed only by the principal investigator, and destroyed immediately when the study is finalized. Your participation in the study is upon purely voluntary basis. What we learn from this study will be used to generate information necessary for the planning to improve, redesign and scale up the PMTCT programs in our country. The interview will be conducted in private and will take 30-40 minutes. During the interview (discussion) period, if you feel inconvenient, you can interrupt and clarify inconvenience, appoint to other time or even withdraw any time after you get involved in the study. Your honest and genuine participation in responding to the questions prepared is very important & highly appreciated. If you agree to participate in this study I will interview you.

Would you be willing to participate?

If yes, proceed. If no, thank and stop here.

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

For further information contact the principal investigator with the following address:

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Jimma University

In-depth interviews Guide questions

The in-depth interviews among ANC- VCT providers will cover a range of topics including:

Background data:

Health Centre

Sex

Age

PMTCT training

Professional background

Year of experience in counselling

1. What do you think is the reason that many women do not visit ANC while pregnant?

Probing questions

Reasons: for using

- Not using
- Facility related problems if any which hinder the uptake
- Client related problems
- Societal related factors

2. How do you explain the uptake of VCT among pregnant women in this facility?

Probing questions

- High, what things makes it high
- Low , what are the reasons
- Is it related to facility,
- client related,
- knowledge, perception of pregnant women
- societal related factor

3. What do you think is the reason that many pregnant women tend to decline HIV testing?

Probing questions

- related to health professionals
- facility related problems
- knowledge, perception of pregnant women

4. How do you explain HIV + pregnant women ARV treatment practice?

- Reason for taking drug
- Reasons for not taking drug?

5. What measures should be taken to scale up the program?

Probing questions

- In terms of facility
- Health professionals related
- Awareness creation

Thank you so much

Section III: Questionnaire Amharic Version

ክፍል 1 መጠይቅ

በጅማ ዩኒቨርሲቲ የህብረተሰብ ጤናና የህክምና ሳይንስ ኮሌጅ የጤናና የሰነ ሳህሪ ትምህርቶች ክፍል

በአዲስ አበባ ከተማ ውስጥ በሚገኙ የመንግስት ጤና ጣቢያዎች ውስጥ የሚገኙ እናቶች ከናት ወደ ልጅ ኤች አይ ቪ እንዳይተላለፍ የሚከላከለውን አገልግሎት መጠቀምን በተመለከተ እንዲሁም ከሱ ጋር የተያያዙ ጉዳዮችን በተመለከተ ያላቸውን ግንዛቤ ለማጥናት የተዘጋጀ መጠይቅ።

ፊት ለፊት ለሚደረግ ቃለ መጠይቅ የተዘጋጀ የይሁን ማረጋገጫ ቅጽ

ስም -----ይባላል። እኔ ከጅማ ዩኒቨርሲቲ የጥናት ቡድን ጋር አብራ እየሰራሁ ነው። ከላይ ለተጠቀሰው የጥናት መረጃ ለማሰባሰብ ከጅማ ዩኒቨርሲቲ የድህረ ምረቃ እጩ ተመራቂዎች አንዱ ለሆኑት ተመራቂ ጥናቱን ለማካሄድ ርስዎ ሳይንሳዊ መሰረት ባለው መስፈርት ጥናቱ ውስጥ ስለተካተቱ ተሳትፎዎትን እያደነቅን ከዚህ ጥናትም የሚገኘው ውጤት ከናት ወደ ልጅ የሚተላለፈውን የኤች አይ ቪ ስርጭት በአዲስ አበባ ለመቆጣጠር ራሱን የቻለ አስተዋጽኦ የኖረዋል ብለን በማመን ስንጠይቅ ለማንኛውም ጥያቄ ምንም አይነት መልስ መስጠት ካልፈለጉ ሙብቱ የርስዎና የርስዎ ብቻ መሆኑን በማስገንዘብ ሁኔታውን በአንክሮ ተመልክተው ለጥናቱ ተሳታፊ እንደሚሆኑና የርስዎ ሃሳብ ወይም ስለጥናቱ ያለዎት ግንዛቤ በጣም ጠቃሚ እንደሆነ በማስገንዘብ በጥናቱ እንደሚሳተፉ ተስፋ እናደርጋለን።

ታዲያ አሁን ለመሳተፍ ፍቃደኛ ሆነዋል ወይስ ምን ሊሉን ወስኑ፤

ሀ) እሳተፋለሁ <) አልሳተፍም

እሳተፋለሁ ካሉ:- አመስግነው መጠይቁን አሁን መቀጠል ይችላሉ።

አልሳተፍም ካሉ:- አመስግነው ወደ ሌላ ተጠያቂ ይለፉ።

ለበለጠ መረጃ ጥናቱን የሚያደርገውን ባለሙያ በሚከተለው አድራሻ ማግኘት ይችላሉ

ፍቅረማርያም ወርቃገኝ

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ጅማ ዩኒቨርሲቲ

በትክክል መሞላቱን ያረጋገጠው ተቆጣጣሪ

ስም-----

ፊርማ-----

ቀን-----

ክፍል አንድ፡ መግለጫ

መመሪያ፡-የመረጃ ሰብሳቢውን ስም፣ ቃለመጠይቁ የተደረገበትን ቀን፣ የጤና ጣቢያውን ስም እንዲሁም የመጠይቅ ቅጽ ቁጥር ይሙሉ።

ተ.ቁ	ጥያቄዎች	መልስ	ዝላል
101	የጠያቂው ስም		
102	መጠይቁ የተደረገበት ቀን	(ቀን/ወር/ዓም) [] [] []	
103	የጤና ጣቢያው ስም		
104	የመጠይቅ ቅጽ ቁጥር		

ክፍል ሁለት፡ ስለ ማህበራዊ እና ኢኮኖሚያዊ ሁኔታ መረጃ

ተ.ቁ	ጥያቄዎች	መልስ	ዝላል
201	እድሜዎ ስንት ነው?	_____ ዓመት	
202	ስንት ልጆች አልዎት?	_____	
203	ካረገዙ ስንት ወር ሆኖት?	_____ ሳምንት	
204	የወር ገቢዎ በአማካኝ ስንት ነው?	_____ ብር	
205	ሃይማኖትዎ ምንድነው?	1. አርቶዶክስ 2. ፕሮቴስታንት 3. ካቶሊክ 4. ሙስሊም 5. ሌላ, ይገለጽ _____	
206	ብሄርዎ ምንድነው?	1. ጉራጌ 2. አማራ 3. አርሞ 4. ትግሬ 5. ጋምቤላ 6. አፋር 7. ሶማሌ 8. ሌላ፣ ይገለጽ _____	
207	የትምህርት ደረጃዎ ስንት ነው?	1. ማንበብ እና መጻፍ የማይችሉ 2. ማንበብ እና መጻፍ የሚችሉ 3. የመጀመሪያ ደረጃ ትምህርት (1- 6) 4. ሁለተኛ ደረጃ ትምህርት (7 - 12) 5. ዩኒቨርሲቲ ወይም ኮሌጅ	
208	በአሁኑ ሰአት የትዳር ሁኔታዎ ምንድነው?	1) ያገቡ (2) ያላገቡ (3) ተለያይተው የሚኖሩ (4) የተፋቱ (5) ባል/ሚስት የሞተባቸው	
209	ባሁኑ ሰአት ያሉበት የስራ ሁኔታዎ ምንድነው?	1. የቀን ስራተኛ 2. ነጋዴ 3. የመንግስት ተቀጣሪ 4. የግል ተቀጣሪ 5. መንግስታዊ ያልሆነ ድርጅት ተቀጣሪ 6. ተማሪ 7. የቤት እመቤት 8. ስራ የሌለው 9. ሌላ፣ ይገለጽ _____	

ክፍል ሶስት፡ ስለ ኤችኤይቪ መተላለፊያ፣ መከላከያ፣ ከእናት ወደ ልጅ ኤችኤይቪ መተላለፍ እና መከላከያው በተያያዘ ግንዛቤዎች

ተ.ቁ	ጥያቄዎች	መልስ	ዝላል
301	ስለ ኤች.አይ.ቪ ሰምተው ያውቃሉ?	አዎ=1 የለም=0	
302	የኤች.አይ.ቪ መተላለፊያ መንገዶችን ያውቃሉ? (አታንብብ, የሚሉትን አክብብ)	1. በግብር ስጋ ግንኙነት አዎ=1 የለም=0 2. በደም እና በደም ተዋጽኦ አዎ=1 የለም=0 3. ከእናት ወደ ልጅ አዎ=1 የለም=0 4. በመርፌ እና በምላጭ አዎ=1 የለም=0 5. አላውቀውም የለም=0	
303	አንድ ሰው በኤች አይ ቪ እንዳይያዝ በምን መከላከል ይቻላል? (አታንብብ, የሚሉትን አክብብ)	1. በመታቀብ አዎ=1 የለም=0 2. አንድ ለአንድ በመወሰን አዎ=1 የለም=0 3. ከንዶም በመጠቀም አዎ=1 የለም=0 4. አላውቀውም የለም=0	
304	አንድ ጤነኛ ሰው በደሙ ውስጥ ኤች አይ ቪ ይኖርበታል ብለው ያስባሉ?	3. አላውቀውም የለም=0	
305	ኤች አይ ቪ ከእናት ወደ ልጅ በምን ግዜ እንደሚተላለፍ ያውቃሉ? (አታንብብ, የሚሉትን አክብብ)	1. በእርግዝና ወቅት አዎ=1 የለም=0 2. ጡት በምታጠባበት ወቅት አዎ=1 የለም=0 3. በምጥ እና በምትወልድበት ግዜ አዎ=1 የለም=0 4. አላውቀውም የለም=0	
306	አንድ እርጉዝ ሴት ኤች አይ ቪ ወደ ልጇ የመተላለፍ እድሉን ለመቀነስ ምን ማድረግ አለባት? (አታንብብ, የሚሉትን አክብብ)	1. ጸረ ኤች አይ ቪ መድሃኒት መውሰድ አዎ=1 የለም=0 2. ጡት አለማጥባት አዎ=1 የለም=0 3. አላውቀውም የለም=0	

ክፍል አራት: ለኤች አይ ቪ ተጋላጭነት ጋር በተያያዘ ግንዛቤዎች

ተ.ቁ	ጥያቄዎች	በአስ	እ	ገለ	አል	በአል
401	በኤች አይ ቪ የተያዘች እናት ጸረ ኤች አይ ቪ መድሃኒት በትክክል ካልተከታተለች መድሃኒቱ ላያሸላት እና ወደ ልጇ ልታስተላልፍ ትችላለች					
402	በኔ ሃሳብ አንድ በኤች አይ ቪ የተያዘች እናት ከአቅም በላይ ብትሰራ፣ በምግብ ብትጎዳ እና ሱስ አምጪ እጾችን ብትጠቀም በበሽታዋ ላይ ጥሩ ያልሆነ ነገር ሊያጋጥማት ይችላል					
403	ያኗኗር ሁኔታዬ እኔንና ልጄን ለኤች አይ ቪ ተጋላጭ ያደረገን ይመስለኛል					
404	በኔ በሽታ ምክንያት ልጄ ለኤች አይ ቪ ተጋላጭ እንዲሆን ያደረገው ይመስለኛል					
405	በኤች አይ ቪ የተያዘ ሰው ያለ ህክምና ከህመሙ ሊያገግም ይችላል					
406	አጋላጭ ባህሪዎችን ባሰወግድ በኤች አይ ቪ አልያዝም እንዲሁም ወደ ልጄም አላስተላልፍም ብዬ አስባለው					

በአስ = በጣም እስማማለሁ ፣ እ = እስማማለሁ ፣ በአል = በጣም አልስማማም ፣ ገለ = ገለልተኛ ነኝ ፣ አል = አልስማማም

ክፍል አምስት: ስለ ኤች አይ ቪ አስከፊ ገጽታ በተያያዘ ግንዛቤዎች

ተ.ቁ	ጥያቄዎች	በአስ	እ	ገለ	አል	በአል
501	ኤች አይ ቪ አደገኛ በሽታ ስለሆነ እኔንና ልጄን ለሞት ሊያጋልጠን ይችላል ብዬ አስባለው					
502	ጸረ ኤች አይ ቪ መድሃኒት የሚፈለገውን ያህል ላያሸል እና ላያድን ይችላል					

503	በኒ ሃሳብ በኤች አይ ቪ የተያዘች እናት ወደተባባሱ ሁኔታዎች ልትጋለጥ እና የመዳን ሁኔታዋ ጥያቄ ውስጥ ሊገባ ይችላል					
504	በኒ አስተሳሰብ እርጉዝ እናት በኤች አይ ቪ ከተያዘች ወደ ልጇ ልታስተላልፍ ትችላለች					
505	ልጇ ለኤች አይ ቪ ተጋላጭ ነው ብዬ አስባለሁ					
506	በኤች አይ ቪ መያዘቴ በህይወቴ ያለኝን ሚና እና ከቤተሰቤ እና ከሌሎች ሰዎች ጋር ያለኝን ግንኙነት ቀይሮታል					

በእስ = በጣም እስማማለሁ ሕ = እስማማለሁ በአል = በጣም አልስማማም ገለ = ገለልተኛ ነኝ አል = አልስማማም

ክፍል ስድስት: ፒኤምቲሲቲን መከታተል ያለው ጠቀሜታ በተያያዘ ግንዛቤዎች

ተ.ቁ	ጥያቄዎች	በእስ	ሕ	ገለ	አል	በአል
601	ጸረ ኤች አይ ቪ መድሃኒት መውሰድ ወደ ልጄ የመተላለፍ እድሉን ቀንሶታል ብዬ አስባለሁ					
602	አጋላጭ ባህሪዎችን መቀነስ በኤች አይ ቪ የመያዝ እድልን ለእርጉዝ እናት እና ልጇ ይቀንሳል					
603	በኤች አይ ቪ የተያዘች እናት ጸረ ኤች አይ ቪ መድሃኒቱን፣ የምክክር አገልግሎቱን በመከታተል ወደልጇ የመተላለፍ እድልን መቀነስ ትችላለች ብዬ አስባለሁ					
604	በኒ ሃሳብ የፒኤምቲሲቲ አገልግሎትን ብጠቀም ልጄ ጤነኛ ይሆናል					
605	የተለያዩ መከላከያ ዘዴዎችን መጠቀም ገንዘቤን ይቆጥብልኛል					
606	የመከላከያ ዘዴዎችን መጠቀም በኤች አይ ቪ መባባስ ምክንያት ከሚመጣው ጭንቀት ነጻ እንድሆን አድርጎኛል					

በእስ = በጣም እስማማለሁ ሕ = እስማማለሁ በአል = በጣም አልስማማም ገለ = ገለልተኛ ነኝ አል = አልስማማም

ክፍል ሰባት: ፒኤምቲሲቲን ለመከታተል እንቅፋቶች በተተያያዘ ግንዛቤዎች

ተ.ቁ	ጥያቄዎች	በእስ	ሕ	ገለ	አል	በአል
701	ጸረ ኤች አይ ቪ መድሃኒት የወደፊት የጤና ሁኔታዬን ይጎዳል ብዬ አስባለሁ					
702	የኔንና የልጄን ሁኔታ ለቤተሰቤ፣ በስራ ቦታ እንዲሁም ለሌሎች ሰዎች ማጋለጥ ያለኝን ሚናና ግንኙነት ያበላሸዋል ብዬ አስባለሁ					
703	አንድ ጊዜ መድሃኒቱ ምልክቶቹን ካስወገዳቸው በኋላ ከማንኛውም ሁኔታ ጋር በተገናኘ ያሉ ቀጠሮዎችን አለመከታተል በኒ ላይ የሚያመጣው ምንም ችግር የለም ብዬ አስባለሁ					
704	ጸረ ኤች አይ ቪ መድሃኒት ከወሰዱ በኋላ ከአንድ ሰዓት ላላነሰ ጊዜ ተደጋጋሚ የሆነ ትውከት ካጋጠመ ከህመሜ መሻል ላይ ችግር ሊገጥመኝ ይችላል					
705	መድሃኒት እየወሰዱ አላስፈላጊ የሆኑ የመንፈስ መረበሾችን ለመከላከል					

	አልኮሆል አንዳንዴ መውሰድ ጠቃሚ ሊሆን ይችላል ብዬ አስባለሁ					
706	በኤች አይ ቪ ምክንያት የሚመጡ የተባባሱ ችግሮችን በራሴ መከላከል እችላለሁ ብዬ አስባለሁ					
707	በተመሳሳይ ሰዓት በየቀኑ የጸረ ኤች አይ ቪ መድሃኒቶችን ማስታወስ እና መውሰድ በጣም አሰልቺ ነው ብዬ አስባለሁ					
708	ለፕሌምቲሲቲ አገልግሎት ወደ ጤና ተቋማት መሄድ ያለንን ጥሪት ያሟጥጥብናል ብዬ አስባለሁ					

በእስ = በጣም እስማማለሁ ሕ = እስማማለሁ በአል = በጣም አልስማማም ገለ = ገለልተኛ ነኝ አል = አልስማማም

ክፍል ስምንት: ፕሌምቲሲቲን ለመከታተል ያላቸው ግላዊ ቆራጥነት

ተ.ቁ	ጥያቄዎች	በእስ	ሕ	ገለ	አል	በአል
801	የኒን የኤች አይ ቪ ሁኔታ በግልጽ ከሚንከባከብኝ ሰው ጋር እንደማወራ በራሴ እተማመናለሁ					
802	የሚታዘዝልኝን ነገር ሁሉ እከታተላለሁ ብዬ በራሴ እተማመናለሁ					
803	የሚንከባከብኝ ወይም ሌላ ሰው ሳያስታውሰኝ መድሃኒቴን እና ህክምናዬን እከታተላለሁ ብዬ እተማመናለሁ					
804	የኤች አይ ቪ ህክምና ክትትል በቀጠሮዬ ወይም ባስፈለገኝ ጊዜ ማግኘት እንደምችል በራሴ እተማመናለሁ					
805	ምንም ሳላቋርጥ የጸረ ኤች አይ ቪ መድሃኒት ያለ ጤና ባለሙያ ወይም ሌላ ደጋፊ እርዳታ እንደምከታተል በራሴ እተማመናለሁ					
806	ያለ ማንም ምክር ከዚህ በፊት የነበሩበኝን ስራዎች(አልኮሆል፣ ሲጋራ፣ ጫት፣ ሺሻ እና የመሳሰሉትን) ርግፍ አድርጌ እንደምተው በራሴ እተማመናለሁ					

በእስ = በጣም እስማማለሁ ሕ = እስማማለሁ በአል = በጣም አልስማማም ገለ = ገለልተኛ ነኝ አል = አልስማማም

ክፍል ዘጠኝ: ስለ ፕሌምቲሲቲ መረጃ በተያያዘ

ተ.ቁ	ጥያቄዎች	መልስ	ዝልል
901	ስለ ፕሌምቲሲቲ ከዚህ በፊት ሰምተው ያውቃሉ?	አዎ=1 የለም=0	→ 903
902	አዎ ከሆነ የመረጃው ዋና ምንጭ		
	የጤና ባለሙያዎች	አዎ=1 የለም=0	
	ፊደላዎች	አዎ=1 የለም=0	
	ፖስተር	አዎ=1 የለም=0	
	ጋዜጣ	አዎ=1 የለም=0	
	ቴሌቪዥን	አዎ=1 የለም=0	
	ከቤተሰብ	አዎ=1 የለም=0	

	ከእምነት ተቋማት	አዎ=1 የለም=0	
	ከትምህርት ቤት	አዎ=1 የለም=0	
903	ኤች አይ ቪ የያዘው ልጅ ከዚህ በፊት ነበረዎት?	አዎ=1 የለም=0	
904	ከቤተሰብ አባልዎት መካከል ኤች አይ ቪ የያዘው ልጅ ያለው ነበር?	አዎ=1 የለም=0	

ክፍል አስር: ፒኤምቲሲቲን ከመጠቀም ጋር በተያያዘ

ተ.ቁ	ጥያቄዎች	መልስ	ዝላል
1001	የምክር አገልግሎት በኤች አይ ቪ ዙሪያ አግኝተው ያውቃሉ?	አዎ=1 የለም=0	
1002	የኤች አይ ቪ ምርመራ አገልግሎት አግኝተው ያውቃሉ?	አዎ=1 የለም=0	
1003	የኤች አይ ቪ ውጤትዎን ወስደው ያውቃሉ?	አዎ=1 የለም=0	
1004	ምናልባት ነፍሰጡር እንደሆነሽ ተመርምረሽ ኤች አይ ቪ ቢገኝብሽ ቫይረሱ ወደህጻኑ እንዳይተላለፍ መድሃኒት ትወስጃለሽ?	አዎ=1 የለም=0	►1005
1005	መልስ አልወስድም ከሆነ ምክንያቱን ቢገልጹልን?		
	1.መድሃኒቱ ፍቱን አይመስለኝም	አዎ=1 የለም=0	
	2.መድሃኒት የምወስድ ከሆነ ቫይረሱ ያለብኝ መሆኑ ይታወቅብኛል(ባለቤቴ፣ቤተሰቦቼ፣ጎረቤቶቼ)	አዎ=1 የለም=0	
	3.መድሃኒቱ ጉዳት እንዳያደርስብኝ ስለምፈራ	አዎ=1 የለም=0	
	4.አላወኩም	የለም=0	
	5.ሌላ፣ይገለጽ-----		
1006	ከኤች አይ ቪ ጋር የምትኖር እናት ልጄን ለመመገብ ጥሩው መንገድ ምንድነው?		
	1.አቅም ካለ ጡት ማጥባቱን አቁሞ የጡጡ ምግብ መጀመር	አዎ=1 የለም=0	
	2.የመግዛት አቅም ከሌላት ጡቷን ብቻ ማጥባቷን መቀጠል	አዎ=1 የለም=0	
	3.ጡቷን እና የጡጡ ምግብ እያፈራረቁ መስጠት	አዎ=1 የለም=0	
	4.ቤት ያፈራውን ነገር ሁሉ ለህጻኑ መስጠት	አዎ=1 የለም=0	
	5.አላወኩም	የለም=0	
	6.ሌላ፣ይገለጽ-----		
1007	የኤች አይ ቪ ምርመራ ተደርጎልሽ ከቫይረሱ ጋር እንደምትኖሪ ብታውቁ ለክትትል ትመላለሻለሽ?	አዎ=1 የለም=0	

በጣም አመሰግናለው

ክፍል 2 መጠይቅ

በጅማ ዩኒቨርሲቲ የህብረተሰብ ጤናና የህክምና ሳይንስ ኮሌጅ የጤናና የሰነ ሳህሪ ትምህርቶች ክፍል

በአዲስ አበባ ከተማ ውስጥ በሚገኙ የመንግስት ጤና ጣቢያዎች ውስጥ የሚገኙ እናቶች ከናት ወደ ልጅ ኤች አይ ቪ እንዳይተላለፍ የሚከላከለውን አገልግሎት መጠቀምን በተመለከተ እንዲሁም ከሱ ጋር የተያያዙ ጉዳዮችን በተመለከተ ያላቸውን ግንዛቤ ለማጥናት የተዘጋጀ መጠይቅ፡፡

ለጥልቅ ቃለ መጠይቅ የይሁን ማረጋገጫ ቅጽ

ስም -----ይባላል፡፡ እኔ ከጅማ ዩኒቨርሲቲ የጥናት ቡድን ጋር አብራ እየሰራሁ ነው፡፡ከላይ ለተጠቀሰው የጥናት መረጃ ለማሰባሰብ ከጅማ ዩኒቨርሲቲ የድህረ ምረቃ እጩ ተመራቂዎች አንዱ ለሆኑት ተመራቂ ጥናቱን ለማካሄድ ርስዎ ለጥናቱ ጥሩ የመረጃ ምንጭ ይሆናሉ ተብሎ ስለሚገመት በጥናቱ ልናካትትዎ ወደናል፡፡በጥናቱ ውስጥ አንዳንድ ከኤች አይ ቪ ጋር፣ ከናት ወደ ልጅ እንዳይተላለፍ ስለሚሰጠው ፕሮግራም ጋር በተያያዘ ለጠየቁ ይችላሉ፡፡የሚሰጡትም ምላሽ ይመዘገባል፡፡ በጥናቱ ሂደት ውስጥ አለመመቻት ሊኖር ይችላል ከሚጠየቁት ጥያቄ የተነሳ፣ ስምዎና ርስዎን የሚመለከቱ ነገሮች በጥናቱ አይመዘገቡም፡፡የሚሰጡት መረጃ በሙሉ ሚስጥሩ የተጠበቀ ነው፡፡ ጥናቱ እንደተጠናቀቀ የሰጡት መረጃ በሙሉ እንዲወገድ ይደረጋል፡፡ ተሳትፎዎትን እያደነቅን ከዚህ ጥናትም የሚገኘው ውጤት ከናት ወደ ልጅ የሚተላለፈውን የኤች አይ ቪ ስርጭት በአዲስ አበባ ለመቆጣጠር ራሱን የቻለ አስተዋጽኦ ይኖረዋል ብለን በማመን ስንጠይቅ ለማንኛውም ጥያቄ ምንም አይነት መልስ መስጠት ካልፈለጉ መብቱ የርስዎና የርስዎ ብቻ መሆኑን በማስገንዘብ ቃለ መጠይቁ 30-40 ደቂቃ የሚፈጅ ሲሆን በቃለ መጠይቁ መሃል አለመመቻት ቢሰማዎ ማቋረጥና ለሌላ ጊዜ መቅጠር ይችላሉ ሁኔታውን በአንክሮ ተመልክተው ለጥናቱ ተሳታፊ እንደሚሆኑና የርስዎ ሃሳብ ወይም ስለፕሮግራሙ ያለዎት ግንዛቤ በጣም ጠቃሚ እንደሆነ በማስገንዘብ በጥናቱ እንደሚሳተፉ ተስፋ እናደርጋለን፡፡

ታዲያ አሁን ለመሳተፍ ፍቃደኛ ሆነዋል ወይስ ምን ሊሉን ወሰኑ፤

ሀ) እሳተፋለሁ <) አልሳተፍም

እሳተፋለሁ ካሉ:-አመስግነው መጠይቁን አሁን መቀጠል ይችላሉ፡፡

አልሳተፍም ካሉ:-አመስግነው ወደ ሌላ ተጠያቂ ይለፉ፡፡

ለበለጠ መረጃ ጥናቱን የሚያደርገውን ባለሙያ በሚከተለው አድራሻ ማግኘት ይችላሉ

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ጅማ ዩኒቨርሲቲ

ሰለ ጥልቅ ቃለ መጠይቅ ማመላከቻ ቅጽ

ጠቅላላ መረጃ

የጤና ጣቢያው ስም

የተጠያቂው ጾታ

የተጠያቂው እድሜ

የፕሌንት ስልጠና ሁኔታ

የተጠያቂው የሙያ ሁኔታ

የሰራ ልምድ በምክር አገልግሎት ዙሪያ

1. እርጉዝ ሴቶች የእርግዝና ከትትል የማያደርጉበት ምክንያት ምን ሊሆን ይችላል ብለው ያስባሉ?

ጠይቅ፣ ምክንያቶች ለመከታተል

ላለመከታተል-ከጤና ተቋሙ ጋር በተያያዘ

-ከባለሙያው ጋር በተያያዘ

ከህብረተሰቡ ጋር በሚያያዙ ምክንያቶች

2. የኤች አይ ቪ ምርመራ አቀባበልን በተመለከተ የናንተን ተቋም እንዴት ይገልጹታል?

ጠይቅ፣ ከፍተኛ ነው-በምን ምክንያት ነው ከፍተኛ የሚያስብለው

ዝቅተኛ ነው-ምክንያቶቹ ምንድናቸው-ከተቋሙ ጋር ይያያዛል

-ከባለሙያው ጋር ይያያዛል

-ከእርጉዝ እናቶች እውቀት እና አመለካከት ጋር በተያያዘ

-ከህብረተሰቡ ጋር በተያያዘ

3. እርጉዝ እናቶች የኤች አይ ቪ ምርመራ የማያደርጉባቸው ምክንያቶች ምንድናቸው ብለው ያስባሉ?

ጠይቅ፣ ከጤና ባለሙያዎች ጋር በተያያዘ

ከተቋሙ ጋር በተያያዘ

ከእርጉዝ እናቶች እውቀት እና አመለካከት ጋር በተያያዘ

4. ፖዘቲቭ የሆኑ እርጉዝ እናቶች የጸረ ኤች አይ ቪ መድሃኒት አጠቃቀም ሁኔታ ምን ይመስላል?

-እንዲጠቀሙ የሚያደርጉ ምክንያቶች

-እንዳይጠቀሙ የሚያደርጉ ምክንያቶች

5. ምን መደረግ አለበት ብለው ያስባሉ ፕሮግራሙን ለማሻሻል?

ጠይቅ፣ ከተቋሙ ጋር በተያያዘ

-ከጤና ባለሙያው ጋር በተያያዘ

-ግንዛቤ ከመፍጠር አንጻር

በጣም አመሰግናለው