

UTILIZATION OF PREVENTION OF MOTHER-TO-CHILD TRANSMISSION OF HIV SERVICES AND ASSOCIATED FACTORS AMONG ANTENATAL CARE ATTENDING MOTHERS, SEBETA TOWN, OROMIA REGIONAL STATE, ETHIOPIA, 2015



BY: -

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Utilization of Prevention of Mother-to-Child Transmission of HIV services and associated factors among ANC attendants, Sebeta town, Oromia Regional state, Ethiopia, 2015

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Abstract

Background: Mother to child transmission of HIV continues to be the major source of HIV infection among children under the age of fifteen. Targeting pregnant women attending antenatal clinics provides a unique opportunity for implementing prevention of mother-to-child transmission (PMTCT) programs against HIV infection of newborn babies. This study assessed utilization of PMTCT service of HIV and associated factors among ANC attending mothers

Methods: An institution based cross-sectional study was conducted from February 20 to March 30, 2015 using exit interviews with 377 ANC attendees using consecutive sampling method. In-depth interviews with service providers were conducted to complement the quantitative data. Data were entered and analyzed using EPI Data and SPSS respectively.

Results: The prevalence of PMTCT service utilization was 86.9% in this study. Only 8.6% of respondents attended the facility for HIV counseling and testing. After controlling confounders using logistic regression; PMTCT service utilization was associated with age (25-34) of respondents (AOR(95%CI)=0.46(0.22,0.97)), Mother's occupational status (being merchant AOR(95%CI) =0.31(0.12,0.83)), being government employee (AOR(95%CI) = 0.05(0.01,0.28)), being student (AOR(95%CI)=0.1(0.005)) and being daily labourer (AOR(95%CI)=0.13(0.05,0.33)), husband's educational status (lack of formal education (AOR(95%CI)=3.3(1.1,9.9)), having discussion with husband(AOR(95%CI)=6.1(2.6,14.1)), partner tested(AOR(95%CI)=8.2(1.9,34.46)) and not satisfied with the service(AOR(95%CI)=0.46(0.2,0.99)). Absence of counselors/providers, lack of awareness and knowledge about HCT, waiting for long time and lack of partner involvement in the service were the main barriers cited for not utilizing PMTCT service during the current pregnancy.

Conclusions: HIV testing among ANC attendees and knowledge about MTCT of HIV was high. Efforts should be made to improve the quality and coverage of PMTCT services and mitigate the barriers preventing mothers from seeking HIV testing. Further research should be conducted to evaluate the effective use of ARV drug among HIV-positive pregnant women attending ANC clinics.

Keywords: PMTCT, MTCT, HCT, ANC, Sebeta, Oromia, Ethiopia

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Table of content

Contents

Abstract	I
Acknowledgement.....	II
Table of content.....	III
List of figures	V
List of tables	VI
Acronyms and Abbreviations.....	VII
CHAPTER ONE	1
1.1 Introduction.....	1
1.2. Statement of the problem	3
CHAPTER TWO.....	6
2.1 Literature review.....	6
2.2 Conceptual framework	12
2.3. Significance of the study	13
CHAPTER THREE.....	14
3. Objectives	14
3.1. General objective.....	14
3.2. Specific objective	14
CHAPTER FOUR.....	15
4. Methods and materials	15
4.1. Study area and period.....	15
4.2 Study design	15
4.3. Source and Study population.....	15
4.3.1 Source population.....	15
4.3.2 Study population	15
4.4 Inclusion and exclusion criteria.....	16
4.4.1 Inclusion criteria.....	16
4.4.2 Exclusion criteria.....	16
4.5 Sample Size determination and Sampling technique	16
4.6. Variables	17

4.6.1 Dependent variable.....	17
4.6.2 Independent variables.....	17
4.7. Data Collection Techniques and Procedures.....	18
4.8. Data quality assurance.....	19
4.9. Data Processing and Analysis	19
4.10. Ethical considerations.....	20
4.11. Dissemination plan.....	20
4.12. Operational definition.....	20
CHAPTER FIVE.....	22
5. Result.....	22
5.1. Socio-demographic characteristics of respondents	22
5.2. Obstetric factors	24
5.3 Knowledge/awareness and attitude of respondents about MTCT of HIV.....	26
5.4 .PMTCT service Utilization	28
5.5. HCT status of pregnant Mother`s partner or husband.....	29
5.6. Time to reach health institution and Waiting time for the services.....	32
5.7. Satisfaction of mothers with ANC/PMTCT Service.....	33
5.8. Factors associated with PMTCT service Utilization.....	35
CHAPTER SIX	39
6. 1. Discussion	39
6.2. Limitation of the study	43
CHAPTER SEVEN.....	44
7. Conclusion and recommendation	44
7.1. Conclusion.....	44
7.2. Recommendation.....	45
References	46
Annexes	50

List of figures

Figure 1: conceptual frame work for factors limiting PMTCT service utilization among ANC attending mothers, Sebeta, Oromia region, June 2015.....	12
Figure 2: Schematic presentation of the sampling procedure among three health centers, Sebeta, Oromia region, June 2015	17
Figure 3: How the pregnant women came to visit the health facility where they had antenatal care for the first time, Sebeta, June 2015.....	26
Figure 4: HCT status of mother`s partner among pregnant mothers attending ANC, Sebeta, Oromia region, June 2015	30

List of tables

Table 1: Socio-demographic characteristics of Antenatal care attending mothers, Sebeta, Oromia region, June 2015.....	23
Table 2: Gestational age and reasons for visiting the ANC clinic among ANC attending mothers, Sebeta, Oromia region, June 2015	25
Table 3: Knowledge about MTCT of HIV among ANC attending mothers, Sebeta, Oromia region, June 2015.....	27
Table 4: Knowledge and attitude about MTCT/PMTCT of HIV among ANC attending mothers, Sebeta, Oromia region, June 2015	27
Table 5: Respondent's practice of HIV testing, and main reasons for being not tested and collection of ARV drug among ANC attending Mothers, Sebeta, Oromia region, June 2015	29
Table 6: Distribution of respondent's partner's with regard to HIV testing and main reasons for being not tested among ANC attending Mothers, Sebeta June 2015	31
Table 7: Time spent by pregnant women for waiting and with counselor among ANC attending Mothers, Sebeta, June 2015.....	32
Table 8: Subjective response of ANC client's satisfaction towards PMTCT service provision, Sebeta, June, 2015.....	34
Table 9: Binary logistic regression of Socio-demographic factors influencing PMTCT service Utilization among ANC attendees, Sebeta, Oromia region, June 2015	35
Table 10: Multiple logistic regression analysis showing predictors of PMTCT service utilization ANC attending pregnant mothers, Sebeta, Oromia region, June 2015.....	38

Acronyms and Abbreviations

AIDS.....	Acquired Immune Deficiency Syndrome	
ANC	Antenatal Care	
AOR	Adjusted Odds Ratio	
ARV	Antiretroviral Drugs	
HAPCO	HIV/AIDS Prevention & Control Office	
HCT.....	HIV counseling and testing	
HIV.....	Human Immunodeficiency Virus	
MNCH.....	Maternal, Newborn and Child Health	
MOH.....	Ministry of Health	
MTCT.....	Mother to Child Transmission of HIV	
NVP.....	Nevirapine	
PCA.....	Principal Component Analysis	
PMTCT	Prevention of Mother to Child Transmission of HIV	
SSA.....	Sub-Saharan African	
UNAIDS	Joint United Nations Programme on AIDS	
UNGASS	United Nations General Assembly Special Session on AIDS STIs	Sexually Transmitted Infections
UNICEF	United Nations children`s Fund	
VCT.....	Voluntary Counseling and Testing	
WHO.....	World Health Organization	

CHAPTER ONE

1.1 Introduction

Acquired Immune Deficiency Syndrome (AIDS) epidemic knocks decades of countries' national development and it can also devastate families and communities worldwide. At the end of 2013, an estimated 35.0 million people were living with HIV globally. About 69% of the people newly infected worldwide in 2013 live in the African Region. The number of deaths among people living with HIV is falling steeply, but the impact of prevention efforts is not yet as resounding. The number of people dying from HIV-related causes declined by 22% between 2009 and 2013, putting the world on track to exceed the target of reducing HIV-related deaths by 25% by 2015. The number of children newly infected decreased by 40% between 2009 and 2013 because of rapidly expanding access to antiretroviral (ARV) drugs for pregnant women. However, some countries with a high burden of HIV infection need to step up their efforts drastically if the 90% reduction target is to be reached by 2015(1).

HIV infection transmitted from an HIV-infected mother to her child during pregnancy, labour, delivery or breastfeeding is known as mother-to-child transmission (MTCT). The prevention of mother-to-child transmission (PMTCT) is a highly effective intervention, has huge potential to improve both child and maternal health and it has been at the forefront of global HIV prevention activities since 1998, following the success of the short-course zidovudine and single-dose nevirapine clinical trials (2).

MTCT continues to be the major source of HIV infection among children under the age of fifteen. Although MTCT can occur any time during pregnancy, labour and delivery and through breast feeding, about half of the transmissions are occurring towards the end of pregnancy, during labor and delivery(3). Delivery of HIV counseling and testing services toward pregnant women for PMTCT is one of the most important HIV prevention strategies. Targeting pregnant women attending antenatal clinics provide a unique opportunity for implementing PMTCT programs against HIV infection of newborn babies(2). PMTCT of HIV infection can involve anyone or all of the following options; use of antiretroviral drugs by the mother during

pregnancy and breastfeeding, deciding not to breastfeed the baby or deciding to deliver the baby by caesarian section.

To prevent the transmission of HIV from mother to baby WHO promotes four comprehensive approaches: Primary prevention of HIV infection among women of childbearing age; Preventing unintended pregnancies among women living with HIV; Preventing HIV transmission from a woman living with HIV to her infant; and Providing appropriate treatment, care and support to mothers living with HIV and their children and families (2).

In 2013 there were an estimated 793,700 people living with HIV including 200,300 children in Ethiopia. There were approximately 45,200 AIDS related deaths in 2013 and about 898,400 AIDS orphans in the same year. HIV adult prevalence is estimated at 1.5% in 2011. However prevalence varies according to age, sex, gender and geographical location(4). Besides the dominant heterosexual transmission in Ethiopia, vertical virus transmission from mother-to-child accounts for more than 90% of pediatric AIDS. It is estimated that over 90% of childhood HIV infections result from the transmission of the virus from mothers to their children during and soon after birth(5). PMTCT program in Ethiopia started in 2001 in four hospitals and its national guideline was developed in the same year to guide the implementation of these projects. Then it was scaled up to 14 HFs under the HAREG project in year 2003 using single dose Nevirapine regimen. Comprehensive National guideline was developed in 2007 offering two options both single dose NVP & dual ARV prophylaxis and it was revised in 2011 and 2013 in line with the WHO recommendations(6). In Ethiopia, the total number of health facilities that provide PMTCT increased from 2,150 in 2013 to 2,495 in 2014 and the proportion of pregnant women counseled and tested for PMTCT of HIV increased from 54.9% in 2013 to 57.0% in 2014. Currently Ethiopia has introduced option B+ in accordance with WHO guideline to strengthened integration of MCH and PMTCT services and up to now, a total 2,542 government and 153 private health facilities are implementing “Option B+” (4,7).

This research focuses on the factors affecting the utilization of PMTCT of HIV services by pregnant mother who were attending ANC. The knowledge gaps, satisfaction with the service, HCT status of mother`s partner, all of which have impact on PMTCT service utilization was assessed. It assessed the acceptability and accessibility of the service, which are critical to redesign effective and appropriate PMTCT programs.

1.2. Statement of the problem

Children are mainly infected with HIV through mother to child transmission at the time of pregnancy, labor and delivery or through breast feeding. Vertical transmission from mother to child of HIV/AIDS has created enormous social and economic problems. The implementation of PMTCT program faced a number of barriers. Due to these barriers, in 2010, it was estimated that only 45% of HIV-positive pregnant women in the sub-Saharan Africa had access to prevention of mother to child transmission (PMTCT) program(8). The Joint WHO and UN report shows that without any intervention, 27-30% of babies born to HIV infected mothers will acquire the virus; transmission during pregnancy is estimated at 5-10%. During labor and delivery, the transmission rate is 10-20% while during breastfeeding the rate is also at 10-20%. By implementing PMTCT program, the overall risk can be reduced to less than 2%. It is also indicated that among all babies who are infected with HIV in Malawi, 21% got the virus from their mothers during pregnancy, 65% during labor and delivery while 14% got the virus through breastfeeding(9).

In developing nations particularly SSA countries where the vast majority of HIV-infected women of childbearing age live, MTCT rates remain high. Such high rates persist mostly because of the lack of access to existing prevention interventions, including HIV voluntary counseling and testing, replacement feeding, selective caesarian section, and antiretroviral drugs. MTCT of HIV remains as one of the biggest concern needs to be dealt with in taking effective preventive measures and maximizing treatment, care and support for needy HIV positive pregnant mothers in order to save the life of large numbers of innocent children in our developing country(10). According to the UNICEF report 2012 between 13% and 40% of HIV positive pregnant women and 15% of HIV-exposed infants received ARVs to avert new infections in children in 2009. Some progress is evident, though robust efforts will be needed if Ethiopia is to meet its national targets for PMTCT by 2014 (11).

The coverage and uptake of PMTCT of HIV services has remained very low in Ethiopia. The study conducted in Adama on client satisfaction on PMTCT service utilization revealed that, although 74.7% of ANC clients were satisfied, the majority did not have a good understanding of the counseling on MTCT and PMTCT. The main challenges reported by service providers were

lack of training, lack of feedback on job performance and inadequate pay(12). According to different evidences the risk of HIV transmission from an infected mother to her child can be reduced by 50% by giving antiretroviral drug during pregnancy and labor and by avoiding breast-feeding. In the absence of preventive measures, the risk of a baby acquiring the virus from an infected mother ranges from 25% to 35% in developing countries. However, experience to-date in many countries show great variations in willingness to make use of the service that are available.

Mothers are afraid of being stigmatized by community members if receiving PMTCT services identifies them as HIV infected. Fear of such unintended disclosure may be an important reason why mothers fail to seek care for HIV-exposed infants. Thus, improving integration of PMTCT services into routine care is critical to improve access to these services (13). Studies identified various barriers to the implementation of PMTCT of HIV including socio-economic and cultural factors affecting the uptake of HCT services, initiation of ARV prophylaxis and lost to follow up after starting ARV for PMTCT.

A study conducted in Addis Ababa found that lack of awareness and knowledge about the availability and benefits of ANC/PMTCT services, shortage of PMTCT service providers, lack of adequate and separate room for PMTCT services, poor involvement of partners/husbands in ANC/PMTCT services, poor disclosure of HIV-status to partners and psychological unpreparedness due to fear of being positive for HIV are the main barriers preventing mothers from HIV testing(14). Another study conducted in North Ethiopia identified several factors for the poor implementation of PMTCT at individual (for instance, place of delivery, having CD4 count) and community level (for example proximity, nurse work load, etc.)(15). Similar study conducted on factors influencing utilization of PMTCT in Addis Ababa showed there are human resource constraints, lack of training ,insufficient allocation of budget, inconsistent supplies, inadequate counseling room, HIV/AIDS related stigma and discrimination, gender inequality, low male involvement, inadequate knowledge, accessibility and affordability of PMTCT services are the major constraints of low utilization of PMTCT services(16). There is PMTCT service variation across regions which also needs to be looked into to identify existing bottle necks and strengthen those that are lagging behind (17). Even though the number of Health facilities providing PMTCT service has increased dramatically in Ethiopia from 2,150 to 2,495, mother-

to-child transmission (MTCT) of HIV still remains to be a challenge for the country due to high missed opportunities and dropout rates in addition to low coverage and utilization of services. Among HIV tested positive pregnant Women 60% did not receive ARV prophylaxis for PMTCT(4,6,7).

According to FHAPCO 2014 report there should be need to address the substantial gap in reaching all pregnant women and address demand and supply side barriers, which may include weak ANC and PMTCT service organization in maternal newborn and child health (MNCH) and primary health care settings including weak referral system; lack of PMTCT services in many ANC facilities and low skilled birth attendance, and post-delivery follow up, low male involvement in PMTCT, low awareness and fear of stigma and discrimination(4).

Oromia region has the highest number of women in need of PMTCT, but also very low prevalence, indicating that further targeting within the region needs to be done. In 2013 proportion of pregnant Women tested for HIV as part of PMTCT was 17% and proportion of pregnant women living with HIV who received ARVs for PMTCT was 11.9%(7).

As a result of limited studies there is little information on the challenges and barriers to PMTCT service utilization in Sebeta town, especially in the context of scaling up this program. Additionally, the expansion of industries in this town and its surrounding makes the town overcrowded but poor in maternal health services as needed including PMTCT services and there are no rigorous research efforts to try to explain constraining factors for PMTCT service utilization among pregnant women attending ANC in health facilities of this town. Therefore, this study was aimed at exploring factors influencing PMTCT services utilization and can provide evidence for the identification of those factors contributing to the poor utilization of PMTCT services and fills the policy gaps towards improving prevention and control strategy.

CHAPTER TWO

2.1 Literature review

A woman infected with HIV can pass the virus to her baby during pregnancy, labor and delivery, or breastfeeding. Without preventive intervention, roughly 15 to 30% of newborns of untreated HIV-positive women will become infected with HIV during pregnancy and delivery and an additional 10 to 20% during breastfeeding. According to WHO report in 2013 more pregnant women living with HIV were tested and started on ARV drugs to prevent mother-to-child transmission and for their own health, and new infections in children declined further? Close to one million pregnant women with HIV received ARV drugs for PMTCT of HIV in 2013, representing two thirds (67%) of all pregnant women with HIV, an increase in coverage of over 40% since 2009 up from 47% in 2009 and 56% in 2011(1,2).

There are an estimated 69 million pregnancies in Asia pacific region. In the year 2009, only 17% and 32% of pregnant women in the region received HIV test and ARV prophylaxis respectively. Similarly, only 32% of HIV exposed infants in the region received any ARV prophylaxis for Prevention of parents to child transmission of HIV. While high levels of coverage have been achieved in Thailand and Malaysia, antenatal HIV testing and PMTCT and infant ARV prophylaxis coverage remains below 50% for many other countries in the region(18).

Significant improvements of PMTCT have been demonstrated in different regions of the world. The percentage of pregnant women with HIV receiving at least some ARVs for PMTCT in Latin America increased from 47% in 2007 to 54% in 2008, and in the Caribbean from 29% to 52%. In Europe and Central Asia, coverage jumped from 74% in 2007 to 94% in 2008(2).

In 2011, there were an estimated 8.6 million women and 2.2 million children living with HIV in East and Southern Africa. Regional coverage of PMTCT prophylaxis has increased from an estimated 61% in 2009 to 72% in 2011. However, country-specific PMTCT prophylaxis coverage varies greatly within the region in which some countries are making the final push towards elimination. According to this report, even though much progress has been made in preventing mother-to-child transmission of HIV, challenges like human resource, community engagement, male involvement, quality of services, etc. remain(19). Recently, interventions to prevent transmission of HIV from mother to child have become increasingly available in

Africa. There are three main strategies that are essential for achieving maximum effective reduction of MTCT of HIV: primary prevention of HIV among would be parents, prevention of unwanted pregnancy among HIV positives, prevention of HIV transmission from HIV infected females to their infants [through antiretroviral therapy to pregnant females (reduce maternal viral load with ARV drugs) and infants, prevention of avoidable exposure to maternal virus at birth through improved obstetric practices (strict application of infection prevention(IP) precautions, and where applicable, caesarian section) and reduction of exposure to HIV through breast feeding or replacement feeding for the infant. Testing during antenatal period offers several advantages including early counseling on the prevention of MTCT and on maintaining health; to take steps to prevent exposing partners; plan for treatment and follow-up for the baby; receive support to maintain her health, including proper nutrition, treatment of sexually transmitted infections (STIs), and care for other infections, such as tuberculosis (TB) or malaria (20) .

As much as availability and implementation of efficacious PMTCT interventions are key in preventing HIV infection in children, individual patient factors are also important and need to be targeted. A case–control study conducted in Johannesburg, South Africa between 2010 and 2012 identified key patient factors for MTCT. In multivariate analysis, unknown HIV status prior to conception, unplanned pregnancy, accessing antenatal care after 20 weeks gestation, and less than 12 years of formal education were all identified as important risk factors for MTCT. Undiagnosed maternal HIV infection prior to conception, unplanned pregnancies, delays in accessing antenatal care, and low levels of education were the most significant patient risk factors associated with MTCT in their study. The finding showed HIV transmission was 3.4 times more likely among women with less than 12 years of formal education than those with more education, and with unplanned pregnancies it was 2.7 fold higher (21).

The study conducted in Tanzania in Mtwara district on association between PMTCT services utilization among HIV positive mothers and HIV status of their HIV -exposed children revealed that mothers who were on ART prophylaxis for PMTCT during pregnancy were 18.2 times more likely to have HIV negative children compared to mothers who were not on ART prophylaxis for PMTCT during pregnancy (AOR= 7.8, CI= 2.514, 24.213) (22). A study conducted in Tanzania and Uganda on awareness and knowledge about HIV mother-to-child

transmission (MTCT) indicated that knowledge on transmission during pregnancy and delivery in women was 93% and 67% in Uganda and Tanzania respectively, and 86% and 78% for transmission during breastfeeding (23). A similar study conducted in Dar Es Salaam, Tanzania, among pregnant women attending antenatal care at the selected health centers showed that 68.1% of the participants had already had HIV testing, while 31.9% had not. Their general knowledge of HIV was high, but specific knowledge of mother to child transmission (MTCT) was relatively low. Regarding the factors affecting PMTCT service utilization frequency of antenatal care visits, disseminating information on HIV/acquired immune deficiency syndrome especially MTCT, and husbands' intensive support are significant factors for increase of HIV test acceptance among pregnant women in the study area(24). Male partners play an equally important role in the scale-up of PMTCT services. In Botswana and Zambia, where disclosure of HIV status among pregnant women is relatively high, families and male partners are involved in decisions around ART and infant feeding. Rwanda has embarked on a strong programme promoting male partner testing in antenatal clinics and has achieved remarkable success—78% of male partners were reported tested for HIV in 2008(2) .

According to the study conducted among mothers attending ANC at Nyanza Provincial Hospital in Kenya 52.4% of clients received PMTCT service at the health facility without prior knowledge about intervention, 96% waited for more than 90 minutes, and 89% took less than 10 minutes for post-test counseling. Knowledge of MTCT and PMTCT was inadequate even after counseling, as participants could not recall the information divulged during counseling. In addition, the study showed that 80% of clients did not present for follow-up counseling irrespective of HIV status, and 95% did not disclose positive HIV status to spouses/relatives for fear of stigma, discrimination and violence(25). Acceptance of HIV test and enrolment in the PMTCT programme is lower in married or cohabitating women than single women, in women belonging to the minorities/marginalized segments, and in lower educational status. Fear of being identified as HIV positive in the family, fear of being recognized by service providers and lack of awareness are still strong limiting factors. The major concern of women in VCT is for the reaction of their male partners to the possibility of a positive HIV test and low trust in the confidentiality of HIV testing. Particularly the role of husbands in the success of PMTCT programmes is pointed out to be critical, since partner participation in VCT and couple counseling increase uptake of nevirapine and formula feeding by many folds. Poor

interaction between pregnant women and counselor is also detrimental for the utilization of PMTCT services in general (26).

A case control study conducted to identify factors that determine the acceptance of voluntary HIV testing among pregnant women attending antenatal care at Dil Chora Hospital in Dire Dawa showed that married women were 19 times more likely to be tested than the single ones (AOR=19.5 (95% CI: 4.25, 89.3)), employed women were 4 times more likely to be tested than unemployed women (AOR=4.2 (95% CI: 1.4, 11.8)), mothers who had good knowledge on HIV, MTCT and VCT were 23 times more likely to be tested than those who had poor knowledge (COR=23.7 (95% CI: 7.1, 79.3)), women who attended two or more ANC follow up were 2.7 times more likely to be tested than those who had less than two visits (COR=2.78 (95% CI: 1.46, 5.17)). But other variables like religion, educational status, and family size were not associated with acceptance of voluntary HIV testing. The study showed that 186 (79.5%) of the participants had good knowledge about HIV, MTCT, and VCT. (27). Similarly the study from Northwestern Ethiopia showed out of the total study subjects 177 (42.3%) were found to have good knowledge on MTCT and Pregnant women who had good knowledge on MTCT were two times more likely to be ready to VCT when compared with those who had poor knowledge (28).

Strengthening the integration of PMTCT services within maternal, newborn and child health (MNCH), sexual and reproductive health, and family planning services in health facilities is one of the critical priorities outlined for reaching the PMTCT targets (29). According to the figure of the research conducted in South Omo Zone, Southern Ethiopia among 960 PMTCT service users, 10% were refused to accept HIV testing and the rest 96.5% were accepted to be tested. The result of the research showed the positivity of the pregnant women who were tested for HIV (PMTCT service utilized) was 3.4% and the remaining 96.6% were negative. The research generalized as the implementation of PMTCT program in its full component coverage still needs intervention (30). A qualitative study conducted in Adama town, Ethiopia, showed that although PMTCT services are available in health facilities there is a low uptake of services due to women's fear of disclosing their sero-status to their male partners for fear of violence and marital relationship break up, stigmatization or victimization from the family, neighbors and community and also fear of being discriminated against by the health workers and

lack of coordinated and easily accessible care and support that ensures confidentiality(10). A case-control study conducted among pregnant women attending ANC/ PMTCT services at Tekle haimanot Health Center and Gandhi memorial Hospital in Addis Ababa City revealed that Women's perceived ability to cope with a positive result, accesses to medical care, fear of husband's negative reaction and the stigma and discrimination following a positive test result are key determinants of uptake of PMTCT services (31) . A study done among pregnant women attending antenatal clinics in Addis Ababa, Ethiopia, revealed that, among the pregnant women visited the health facility for ANC check-up (94%) ,only 18% and 9% of them attended the facility for HIV counseling and testing (HCT) and receiving antiretroviral prophylaxis, respectively. The study showed that 90% knew that a mother with HIV can pass the virus to her child and MTCT through breast milk was commonly cited by most women (72.4%) than transmission during pregnancy (49.7%) or delivery (49.5%). About 80% of the respondents reported adequacy of privacy and confidentiality during counseling, but 16% wished to have a different counselor. According to the result of this study the main factors affecting PMTCT service utilization were absence of counselors, poor counseling, lack of awareness and knowledge about HCT, lack of interest and psychological unpreparedness (14) . Increasing knowledge of ways in which HIV can be transmitted from mother to child and of the fact that the risk of transmission can be reduced by using antiretroviral drugs is critical to reducing mother-to-child transmission (MTCT) of HIV. According to EDHS 2011, 42% of women knew both that HIV can be transmitted through breastfeeding and that HIV positive women can reduce the risk of MTCT by taking special drugs during pregnancy. The youngest respondents, never-married respondents who have ever had sex, and urban women are more likely to know both facts about MTCT and there was variation across regions(32).

A research conducted in Hawassa University referral hospital showed more than four-fifth (82.3%) mothers knew about prevention of mother-to-child transmission of HIV and 97.4% had good attitude towards it. Only about half (48.3%) of the respondents knew that antiretroviral drugs given for seropositive pregnant mothers could reduce the risk of transmission. According to this study urbanite mothers were more knowledgeable than their rural counter parts (AOR=2.63, 95%CI (2.5, 5.31)), the odds of knowledge on PMTCT was about 3 times higher among multipara and six times among women having their antenatal follow up for the current

pregnancy. This study revealed that about 96% of mothers have been tested for HIV and the rest did not test due mainly to fear of stigma, discrimination and lack of confidentiality.

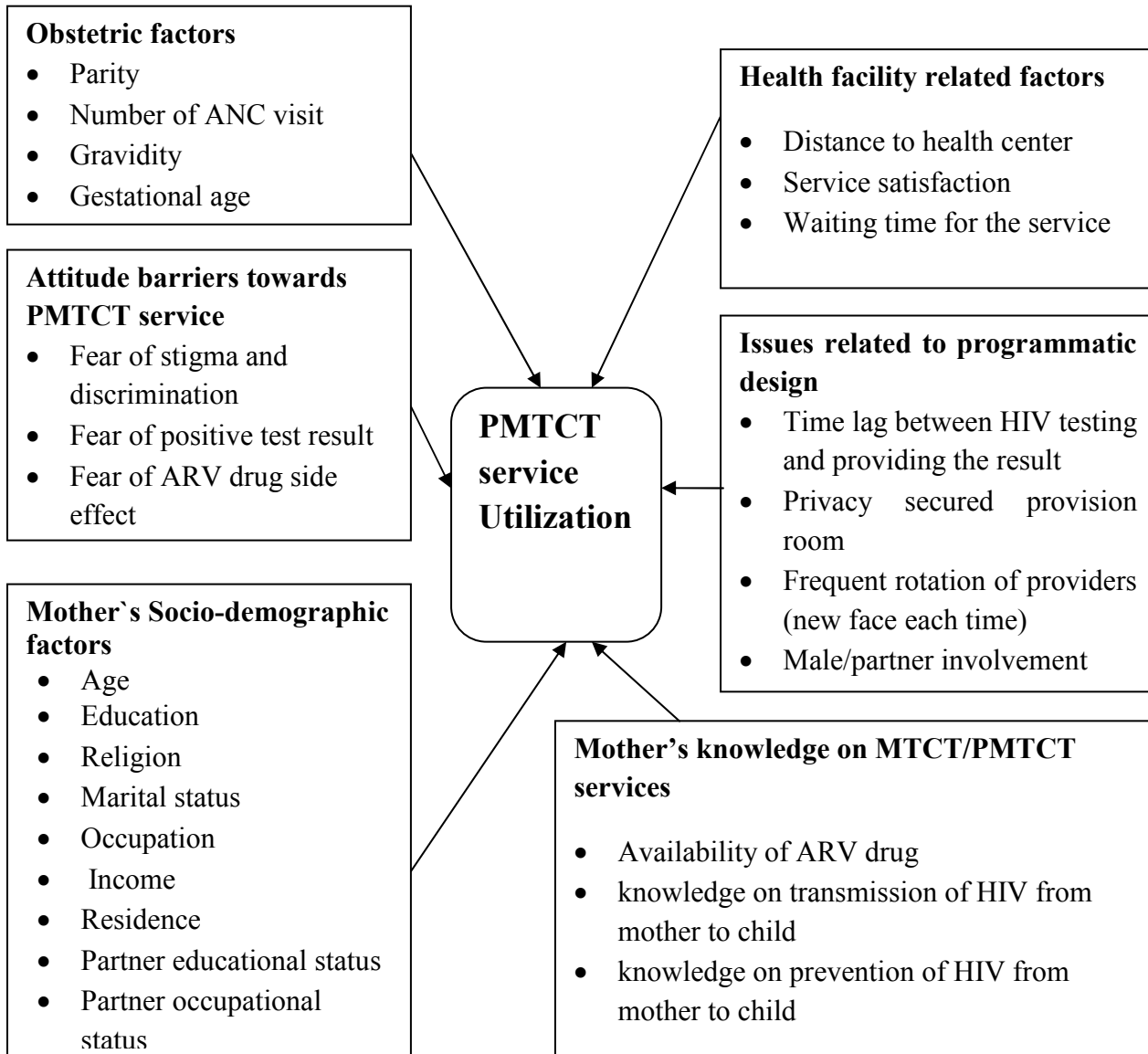
A research conducted in Hawassa town by Alemnesh Hailemariam on Utilization of PMTCT services among ANC attendees and service providers showed that the PMTCT services utilization was 9.8% (37/377) among the survey participants, and PMTCT service utilization was independently associated with being attendants of antenatal care, being aware of the availability of NVP for PMTCT and having more than one antenatal visits. The study also revealed that shortage of resource, poor commitment of PMTCT counselors, poor service organization, problem with confidentiality, lack of autonomous decision (counselors largely enforce for decision) are the major barriers of PMTCT service provision and utilization. The result showed that PMTCT service utilization was found to be significantly associated with variables like being attendants of antenatal care in Health Centre, being a housewife, women having more than one antenatal visits, having awareness on the availability of NVP for PMTCT, having discussion about HIV testing with husband and husband ever been tested for HIV (3).

According to the annual performance report of Federal HAPCO, 2010, 9.4 million tests for HIV were done, a total of 653,065 pregnant women were tested for HIV, and 13,257 of them were found to be HIV positive, out of which 6690 (53%) received ARV prophylaxis. This achievement shows that 47% of the identified HIV positive mothers haven't received the ARV prophylaxis, the achievement being even lower in Amhara and Oromia regions. It is therefore an area of special attention, at all levels, for which it is required to design and implement effective strategies(17).

Although Ethiopia has made progress in the provision of services to reduce MTCT by increasing the proportion of women getting tested and knowing their results through expanding rapid testing to many PMTCT sites, national ANC coverage is only 66.3%, and coverage of skilled birth at a health institution is a mere 24.9%. A total of 90,311 HIV positive pregnant women and 14,276 HIV-positive births were reported in the country in 2010/11. However, the proportion of pregnant women counseled and tested for PMTCT was 33.4%, and only 9.3% of infants born to HIV positive mothers received ARV prophylaxis for PMTCT. There are a number of factors that contribute to the low uptake of PMTCT services. ANC, skilled birth attendant and HCT services influence the utilization of PMTCT for HIV (14) .

2.2 Conceptual framework

Conceptual Frame work: Factors limiting utilization of PMTCT service



Source :Adapted and modified after reviewing literatures (20,33)

Figure 1: conceptual frame work for factors limiting PMTCT service utilization among ANC attending mothers, Sebeta, Oromia region, 2015

2.3. Significance of the study

Strengthening the integration of PMTCT services within maternal, newborn and child health (MNCH), sexual and reproductive health, and family planning services in health facilities is one of the critical priorities outlined for reaching the PMTCT targets. One of the pillars of improving utilization of services is measuring and addressing factors related with clients and health providers.

Thus, this study was conducted to identify factors that influence PMTCT service utilization among ANC attending mothers and the challenges, which providers face and have in the implementation of PMTCT services in Sebeta town, Oromia region. The findings of the study would be expected to inform policy makers and health providers in their efforts to accelerate the uptake and coverage of PMTCT services through addressing those factors. Additionally, the finding of this study would serve as baseline information for future research. This will increase the levels of knowledge and practices regarding MTCT/PMTCT services among those women and consequently result into reduced MTCT and improved maternal and child health.

CHAPTER THREE

3. Objectives

3.1. General objective

- To assess utilization of PMTCT of HIV services and associated factors among antenatal care attending mothers in health facilities in Sebeta town, Oromia regional state, Ethiopia, 2015

3.2. Specific objective

- To assess utilization of PMTCT services among ANC attendants
- To identify factors affecting utilization of PMTCT services

CHAPTER FOUR

4. Methods and materials

4.1. Study area and period

The study was conducted in Sebeta town which is located in the Oromia special Zone, Oromia region from February 20 to March 30/2015. Sebeta town is one of the 12 big towns in Oromia regional state. It is found 25 km to the South West of Addis Ababa on Jimma road. The total population of the town as projected based on the 2007 census is 111,148 (Female 59308 and Male 51,840) (34). There are about 22,924 women of reproductive age (15–49 years) while 3,833 estimated to be pregnant women. Administratively, the town is divided into eight broad kebeles. There are a total of 3 public health centers (Sebeta health center, Alemgena Health center, and Daleti Health center) and one Hospital and one health center under construction, 54 private clinics and 22 Pharmacy in this town. Sebeta health center is providing services to more than 43,740 inhabitants in the area. Alemgena and Daleti health centers providing services to 58,825 and 8,583 inhabitants of the area respectively. Regarding health professionals working on PMTCT service in each health facilities there are three in Sebeta health center, four in Alemgena Health center and one in Daleti health center.

4.2 Study design

Institution based cross-sectional study using both qualitative and quantitative data collection method was used

4.3. Source and Study population

4.3.1 Source population

The source population for the study was all pregnant women who visited public health institutions (health centers) for antenatal care in Sebeta town.

4.3.2 Study population

The study population was pregnant women who visited the selected health centers to receive ANC services during the study period and PMTCT service providers of each health facility.

4.4 Inclusion and exclusion criteria

4.4.1 Inclusion criteria

A pregnant woman was eligible if she was attending ANC clinic

4.4.2 Exclusion criteria

- Pregnant women who were seriously ill at the time of the study were excluded.
- All pregnant women who were unable to communicate were excluded from the study.

4.5 Sample Size determination and Sampling technique

The sample size calculation for quantitative study was based on a single population proportion formula by taking 57% proportion of pregnant women counseled and tested for prevention of maternal to child transmission of HIV(7), 95% significance level, 5% margin of error, and 10% non-response rate. Accordingly, the required sample size (n) was

$$n = \frac{(Z\alpha/2)^2 pq}{d^2} \quad n = \frac{1.96^2(0.57*0.43)}{(0.05)^2} = 377$$

(3,833 women are estimated to be pregnant in the town which is less than 10,000 populations). Therefore the population correction factor was used to determine final sample size.

$$Nf = \frac{n}{1 + \frac{n}{N}} = \frac{377}{1 + \frac{377}{3833}} = 343 + 10\% \text{ non-respondent rate} = 377$$

Sample size allocation to the health facility was proportional to the number of clients, considering average number of ANC attendants at each facility over three-months prior to the study period. The selection of pregnant women for the interview was based on consecutive sampling method until the sample size required for each facility was obtained. To supplement the quantitative study with qualitative data 14 purposely selected in-depth interviews with service providers including heads of each health centers and prevention and control of communicable diseases team leaders of each health centers were conducted.

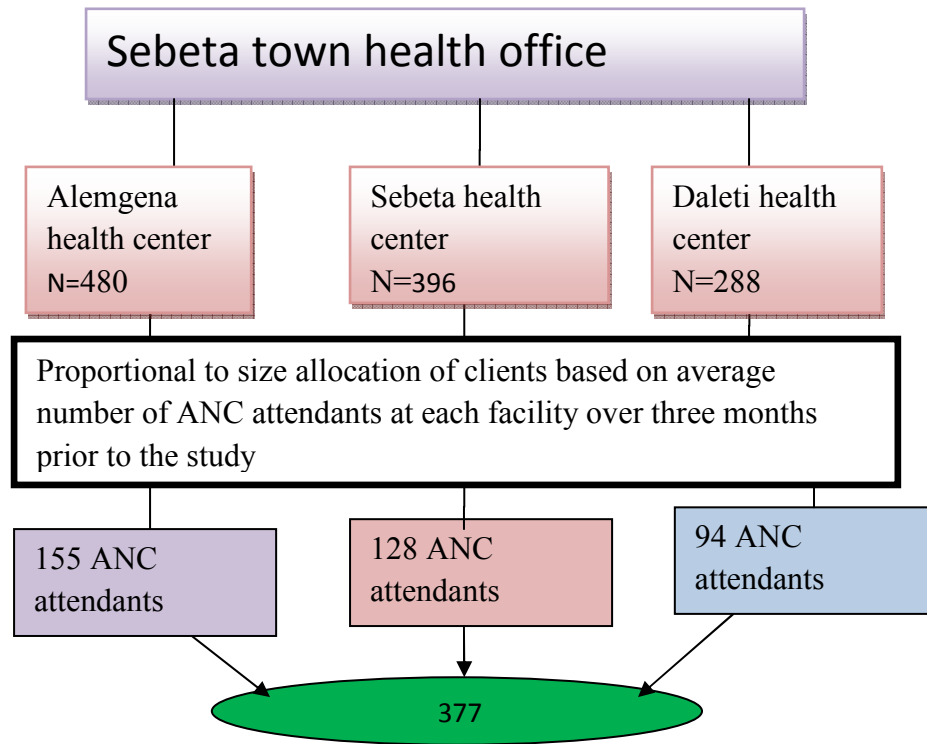


Figure 2: Schematic presentation of the sampling procedure among three health centers, Sebeta town, 2015

4.6. Variables

4.6.1 Dependent variable

Utilization of PMTCT services

4.6.2 Independent variables

- **Socio-demographic factors:** Education, religion, residence, marital status, occupation, income, Partner's educational status, Partner's occupational status
- **Obstetric factors:** Parity, Number of ANC visit during the current pregnancy, Gravidity, gestational age
- **Attitude barriers towards PMTCT service:** Fear of stigma and discrimination (husband, family, providers and community), fear of positive test result, fear of ARV drug side effect
- **Health facility related factors :** Availability of service, availability of resource (Human power, HIV kit, ARV drug, etc), distance to health center, service Satisfaction,

- **Issues related to programmatic design** :Time lag between HIV testing and providing the result, Privacy secured service provision room, Frequent rotation of providers (new face each time), Waiting time for the service, partner involvement
- **Mother's knowledge/awareness about MTCT/PMTCT services**:, knowledge about transmission of HIV during peripartum period, knowledge on how to prevent MTCT, knowledge on availability of ARV drug for prevention of MTCT

4.7. Data Collection Techniques and Procedures

All pregnant women attending the ANC clinic were invited to participate. All of the data collectors started data collection on the same day from the 1st ANC attending mothers and continue until the sample size required for each health facility was obtained. Face-to-face exit interviewer administered questionnaires was employed to collect the data from ANC attending mothers. A pretested structured questionnaire that addresses all important variables was prepared and pre-tested. The English version of the questionnaire was translated into Afan Oromo for better understanding by the data collectors and respondents. The questionnaire was then back translated to English to check for its consistency. The questionnaire mainly consisted of close-ended with some open-ended questions addressing socio demographic characteristics, reproductive history, knowledge and attitude about the MTCT of HIV, ANC visit, waiting time at the health facility, HCT, partner's HIV testing status, privacy and confidentiality and satisfaction with the services. In-depth interviews with service providers including heads of selected health centers and diseases prevention and control team leader of each health centers was conducted. PMTCT service providers were purposively selected among those working with ANC and PMTCT in the clinic. Semi-structured in-depth interview guides was prepared in English and translated to Afan Oromo. The purpose of conducting these in-depth interviews was to gain a detailed insight into the factors affecting utilization of prevention of mother to child transmission of HIV service.

Interview was started from heads of health centers purposely and it was made in a private room in the health center where the participant feels comfortable speaking with the interviewer. All health workers who are responsible for PMTCT programs of the respective sites were requested to be interviewed and tape recorded with explanation of the objectives of the study and verbal

consent. Both quantitative questionnaires and qualitative interview guide was prepared after reviewing previously done studies on the topic of interest(12,14,35). Four data collectors with nursing and midwifery background who were not from the health centers were assigned for data collection. The data collection was supervised by BSc Public health holder with experience on PMTCT services from Sebeta town health office.

4.8. Data quality assurance

To ensure the quality of data one day training was given for data collectors and supervisors. Supervisor/principal investigator checked the collected data on daily basis in order to maintain its accuracy and completeness. Pre-testing of the data collection tools was conducted at Awash health center using 5% of the total sample size to identify any weakness in the structuring of the research instruments. Awash Health center is situated in a neighboring town where the population shares similar attributes as that of Sebeta town. Following the pre-test, the tools were improved in terms of their clarity, understandability and simplicity in collecting the data required for the study.

4.9. Data Processing and Analysis

Quantitative data were checked for its completeness, edited, cleaned, coded and entered into EpiData version 3.1 and exported to SPSS version 21 for analysis. Descriptive analysis was performed and results were presented by tables, graphs and charts. Bi-variate analysis was run using logistic regression to identify candidate variables for multivariable analysis. Variables with $p\text{-value} < 0.25$ in bi-variate analysis were considered as candidates for multiple logistic regressions. Principal component analysis was used for some independent variables. Each scale was subjected to factor analysis to investigate the underlying component and to reduce the number of items based on eigenvalue. Factors with eigenvalue less than one were discarded and only those with eigenvalue greater than one were considered in subsequent analysis. Factor score was computed for the item identified to represent the variables scale by varimax rotation method. Using this regression factor score, after dichotomizing the value, binary logistic regression analysis was performed and the effect of independent variables on the regression factor score of the dependent variable was quantified. Multiple logistic regressions were performed using backward stepwise method to identify factors independently associated with dependent variable.

Multivariable analysis was used to adjust the effects of potential confounding variables. Strength of association was measured using odds ratio, and 95% confidence intervals. P-value < 0.05 was considered statistically significant. Multi-collinearity among the independent variables and the goodness-of-fit of the model were checked.

The qualitative data recorded from the in-depth interview were transcribed from Afan Oromo to English language and text analysis was done manually by the principal investigator. The transcribed data were read carefully, categorized and summarized by thematic areas. The interview data were triangulated with the quantitative data.

4.10. Ethical considerations

Ethical clearance was obtained from ethical review board of College of Health Sciences, Jimma University. Written permission was obtained from the Oromia Regional Health Bureau. Then, letter of permission was obtained from Sebeta town administration and Sebeta town Health office and also heads of the health centers were communicated through formal letter from town health office in addition to personal communication by the investigator. The objective of the study was explained to the study participants in order to obtain their verbal consent before interview. Participants were also informed that they have full right to discontinue or refuse to participate in the study. Answers to any questions were completely confidential.

4.11. Dissemination plan

The results of this study will be presented to Jimma University, Epidemiology department. Study result will be given to Oromia regional Health Bureau. It will also be communicated to Sebeta town administration, Sebeta town Health office and health centers. Finally, attempts will be made to present the results on scientific conferences and to publish on peer reviewed scientific journal.

4.12. Operational definition

- **PMTCT service utilization:** The respondent women who reported that she was counseled and offered voluntary HIV testing, HIV tested, took post counseling.
- **Knowledge about PMTCT service:** Awareness of the fact, information and understanding that one has gained about MTCT and PMTCT services. It was measured

by the participants' responses to 7 knowledge related questions related to MTCT/PMTCT. Correct responses were given a value of '1' and incorrect responses were given '0'. The scale was internally consistent (Cronbach's $\alpha=0.72$). The sum was computed and the mean was used as a cut-off point. Respondents who had scored above the mean were considered as having good knowledge. Respondents who scored below the mean were labeled as having poor knowledge.

- **Access to health facility:** the pregnant women living no more than an hour from health facility or availability of health facility within one hour's walk or travel
- **Satisfaction:** Clients satisfaction is positive or pleasurable emotional state resulting from the service provided for them. Satisfaction of clients were measured using 8 items scale and it has 'yes' and 'No' responses. The scale was internally consistent (Cronbach's $\alpha=0.96$). Then principal component analysis was computed; variable with eigenvalue less than one were discarded and only those with eigenvalue greater than one were considered in subsequent analysis. Factor score was computed for the item identified to represent the variables scale by varimax rotation method. One component was generated and explains 74.1% of variance in the data. It was dichotomized (satisfied and not satisfied) and then used for description and to see association with dependent variable.
- **Attitude about PMTCT service:** A way of thinking about PMTCT service or behaving towards some things about PMTCT service. Attitude of clients was measured using five items likert scale (Cronbach $\alpha=0.92$). The instrument has likert scale from strongly disagree (1) to strongly agree (5) for positive statement. Then principal component analysis was computed; variable with eigenvalue less than one were discarded and only those with eigenvalue greater than one were considered in subsequent analysis. Factor score was computed for the item identified to represent the variables scale by varimax rotation method. One component was generated and explains 76.7% of variance in the data. It was dichotomized (positive attitude and negative attitude) and then used for description and to see association with dependent variable.
- **Availability:** measure access to PMTCT services: existence of services site, human resource, drugs, laboratory supplies, referral support net work and availability of long term support.

CHAPTER FIVE

5. Result

Out of 377 Antenatal care attending pregnant women approached, 374(99.2% response rate) participated in the study and completed the questionnaire.

5.1. Socio-demographic characteristics of respondents

Of the 374 women majority (311(83.2%)) of respondents were living in Sebeta town. The age of pregnant women included in this study ranged between 18 and 40 years with mean (\pm SD) age 25.2(\pm 4.7) years and 342(91.4%) are currently married. Among the respondents, 228(61%) were Orthodox, 92(24.6 %) Muslim followed by 54(14.4%) protestant. The largest ethnic group was Oromo 285(76.2%) followed by Amhara 44(11.8%). Concerning the educational status of mothers, majority of them, 188(50.3%) had attended grade 7 and above and 212(56.7%) of them were housewife by their occupation. Regarding the occupational status of mother's husband/partner, 152(43.2%) were daily laborers and 188(50.3%) had attended grade 9-12 and beyond by schooling. Out of the total study subjects, 256 (68.1%) of mothers earn an average monthly income of less than 750 ETB (Table 1).

A total of 14 service providers participated in in-depth interviews. All of the in-depth interview participants had at least Diploma level education with some form of on job training.

Table 1: Socio-demographic characteristics of Antenatal care attending mothers, Sebeta, Oromia region, 2015

Characteristics	Frequency	Percent
Place of residence		
Sebeta town	311	83.2
Out of Sebeta town	63	16.8
Age of respondent		
15-24	182	48.7
25-34	168	44.9
35-44	24	6.4
Religion		
Orthodox	228	61.0
Muslim	92	24.6
Protestant	54	14.4
Marital Status		
Currently Married	342	91.4
Not currently married	32	8.6
Ethnicity		
Oromo	285	76.2
Amhara	44	11.8
Silte	16	4.3
Gurage	12	3.2
Tigre	9	2.4
Others**	9	2.4
Educational Status		
Illiterate	64	17.1
Able to write and read	13	3.5
Grade 1-8	109	29.1
Grade 9 and beyond	188	50.3

Occupational status		
House wife	214	57.2
Daily laborer	83	22.2
Merchant	61	16.3
Government employee	9	2.4
Student	7	1.9
Husbands /Partner occupational status[‡]		
Daily laborer	152	43.2
Merchant	96	27.3
Government employee	37	10.5
Driver	31	8.8
Carpenter	20	5.7
Others****	16	4.5
Husband /Partner educational status[‡]		
No formal education	53	15.1
Primary education	87	24.7
Secondary and above	212	60.2
Monthly income		
<=750	118	31.6
>750	256	68.4

** Welane, Kembata *** Drivers, Carpenter, Farmers, Jobless

[‡] Total does not add up to 374 because 22 mothers had no husband

5.2. Obstetric factors

Mothers were asked their Gestational age and the reasons for visiting the ANC clinic. The average gestational age of the current pregnancy was 25.7 weeks, while majority of the respondents 183 (48.9%) were in their third trimester. More than half of the respondents, 204(54.5%) of the pregnant women were Multigravida and 170(45.5%) ever had one pregnancy. Regarding the number of alive children, majority (207(55.3%)) of mothers had no parity while the rest had one or more parity. Concerning the number of ANC visits, the average number of

visits to the current ANC facility was 2 times, in which 147(39.3%) had visited ANC once .The pregnant women were asked why they visited the Antenatal care clinic in the current health facility, and only 32(8.6%) of the respondents visited the ANC for ANC service and HIV test (Table 2).

Table 2: Gestational age and reasons for visiting the ANC clinic among ANC attending mothers, Sebeta, Oromia region, 2015

Characteristics	Frequency	Percent
Gestational age in week		
First trimester	26	7.0
Second trimester	165	44.1
Third trimester	183	48.9
Gravidity		
Primigravida	170	45.5
Multigravida	204	54.5
Parity		
No parity	207	55.3
One or more parity	167	44.7
Number of visits made to ANC clinic		
First	147	39.3
Second	125	33.4
Third and more	102	27.3
Reason for visiting the ANC clinic		
For both ANC service and HIV test	32	8.6
For ANC service only	342	91.4

Clients were asked about how they first came to the health institution they visited and 65.2% of them reported that their visit was upon recommendation from their friends or partners. Only 25.1% of clients came by their personal decision (Figure 3).

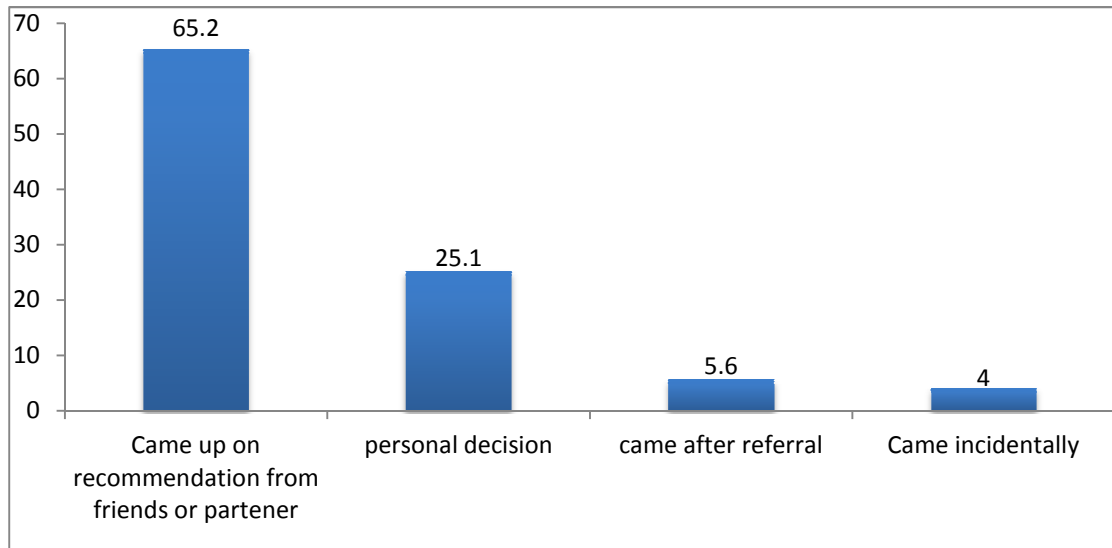


Figure 3: How the pregnant women came to visit the health facility where they had antenatal care for the first time, Sebeta, 2015

5.3 Knowledge/awareness and attitude of respondents about MTCT of HIV

A majority of the pregnant women knew about MTCT of HIV, 279(74.6%) replied that a mother with HIV can pass the virus to her child. However, 55 (14.7%) of the respondents did not think that HIV could pass from mother to child, and 40 (10.7%) did not know whether or not HIV can be transmitted from mother to child. Mother to child transmission of the virus during pregnancy was commonly cited by most respondents 356(95.2%). Respondents were asked about PMTCT of HIV, 150(40.1%) mentioned that it can be prevented by ARV drug followed by 145(38.8%) by avoiding breast feeding (Table 3). Over all 243(64.9%) of pregnant mothers attending ANC had good knowledge of MTCT/PMTCT service while 131(35.1%) had poor knowledge of MTCT/PMTCT.

In support of this finding service provider from Sebeta health center said,

“Even though awareness of mothers on MTCT of HIV is increased from time to time still some mothers don’t have awareness and knowledge especially about the ways of transmission and its prevention methods.”(27 age, male Service provider)

Regarding the attitude of mothers towards PMTCT service utilization, five likert scale questions were prepared for interview to measure their attitude towards the service. Then principal component analysis was performed. Finally, after dichotomizing the final output was entered in

to multiple logistic regressions. Hence, 229(61.2%) had positive attitude while 145(38.4%) had negative attitude towards PMTCT service utilization.

Table 3: Knowledge about MTCT of HIV among ANC attending mothers, Sebeta, Oromia region, 2015

Characteristics	Frequency	Percent
HIV can be transmitted from mother to her child		
Yes	279	74.6
No	55	10.7
Didn't know	40	14.7
Transmission MTCT of HIV During pregnancy		
Yes	356	95.2
No	18	4.8
Transmission MTCT of HIV during Child birth		
Yes	124	33.2
No	250	66.8
Transmission MTCT of HIV during breast feeding		
Yes	108	28.9
No	266	71.1
MTCT of HIV prevention by ARV drug		
Yes	150	40.1
No	224	59.9
MTCT of HIV prevention by avoiding breast feeding		
Yes	145	38.8
No	229	61.2
MTCT of HIV prevention by caesarian section delivery		
Yes	28	7.5
No	346	92.5

Table 4: Knowledge and attitude about MTCT/PMTCT of HIV among ANC attending mothers, Sebeta, Oromia region, 2015

Characteristics	Frequency	Percent
Attitude		
Positive attitude	229	61.2%
Negative attitude	145	38.4%
Knowledge		
Good knowledge	243	64.9%
Poor knowledge	131	35.1%

5.4 .PMTCT service Utilization

About 325 (86.9%) of the pregnant women had been tested for HIV during the current pregnancy and they were tested either in the current health facility or elsewhere. Forty nine (13.1%) of the respondents were not tested. Concerning the main reasons for not being tested, absence of counselor/provider and lack of awareness and knowledge about HCT were reported to prevent pregnant women from being tested for HIV (Table 5). Regarding the test result among HIV tested pregnant mothers, 313(96.3%) tested negative while 12(3.7%) tested positive.

Concerning about the HIV test of pregnant mothers one service provider from Sebeta health center stated as;

“Some of them may return to their home without testing due to lack of resource (man power/professionals and sometimes kit). They are appointed to afternoon or the next day due to lack of professional and service delivery room. Because according to BPR the structure of man power for our health center is not compared with the population in the catchment area. On the other hand occasionally some of them refuse to be tested because they fear their husband.” (Female service provider).

Among those pregnant mothers of positive test result 9(75%) had collected ARV drug; but 3(25%) didn't collected ARV drug due to different reasons: fear of her partner; refused her test result, fear of stigma and discrimination from the community.

Regarding the collection of drug for HIV positive mother's one Midwife nurse from Alemgena Health center said;

“Some of them cry when they hear their HIV test result; they refused their test result and said they should be tested at another health Institution. Hence, they refuse to collect ARV drug or take it secretly and incorrectly due to fear of divorce, stigma or violence. Some mothers change their address and disappear after they learned that they are HIV-positive due to the fear of stigma and discrimination” (Female service provider).

Table 5: Respondent’s practice of HIV testing, and main reasons for being not tested and collection of ARV drug among ANC attending Mothers, Sebeta, Oromia region, 2015

Variable	Frequency	Percent
Respondents tested for HIV in the current pregnancy		
yes	325	86.9
No	49	13.1
HIV Test result		
Negative	313	96.3
Positive	12	3.7
Respondents’ main reason for not being tested *		
Absence of counselor/provider/KIT	26	53
Fear of rejection by partner/husband	14	28.6
Lack of awareness and knowledge	12	24.5
Fear of stigma and discrimination	6	12.2
Tested before current pregnancy	11	22.4
Fear of being tested positive for HIV	1	2
Collected ARV drug		
Yes	9	75
No	3	25
Respondents’ main reason for not collecting ARV drug		
Fear of her partner /husband	1	33.3
Refused her test result	2	66.7

*Multiple responses possible

To increase PMTCT service utilization one service provider from Daleti health center stated; “.....mother-to- mother group established in the community is not progressing well. Even this group is not established under our health center. Mother-to-mother group includes HIV-positive or negative mothers volunteered for teaching the community about PMTCT. Hence this group should be strengthened to help mothers especially those who are HIV positive”. (Female PMTCT Service provider)

5.5. HCT status of pregnant Mother`s partner or husband

With regard to partner testing, the pregnant women were asked if they knew their partner’s HIV testing status, and only about 24% of their partners were tested during their current pregnancy (Figure 4). However about three fourth, 266(75.6%), of the respondents’ partners were not tested

for HIV and the primary reason included partner's lack of time 174(65.4%), partner living in other areas 52 (19.5%) and lack of awareness and knowledge 34(12.8%). However only two respondents said they didn't know the reason for not being tested of their husband or partner (Table 5).

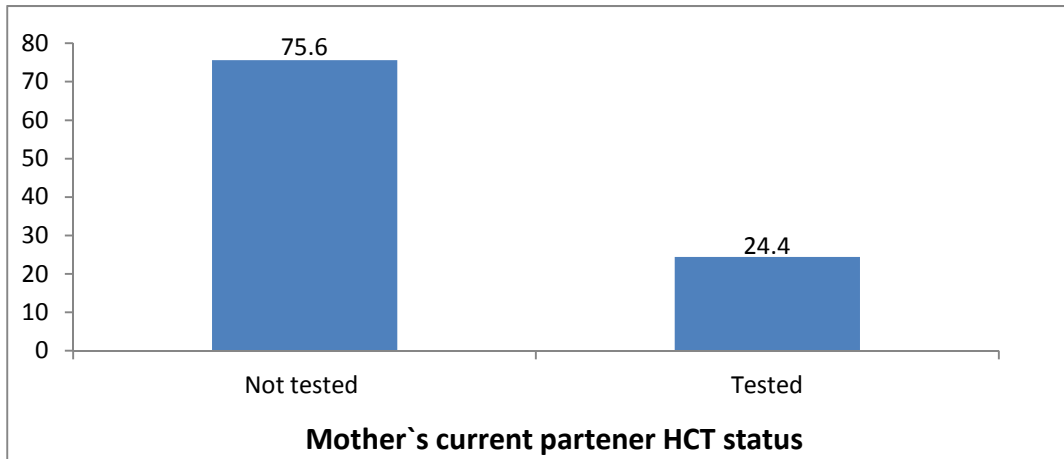


Figure 4: HCT status of mother's partner among pregnant mothers attending ANC, Sebeta, Oromia region, 2015

Concerning partner test or male involvement one service provider from Alemgena health center noted; *“Mothers fear to be tested alone and there is a problem on how to include their partners/husbands in this programme. We give appointment and invitation letter to their partners to come together but the partners usually do not come for HIV counseling and testing.”(Female Service provider)*

Regarding the discussion about ANC and HIV test with their partner, 296(84.1%) of the pregnant women interviewed said they had discussions with their current partners/husband. Women with grade 7 and above schooling 172(48.9%) than illiterate ones 39(11.1%) reported discussions with their partners during their current pregnancy. Of the total respondents, 288(97%) thought that their partners/husbands had positive attitudes towards ANC services and HIV testing during pregnancy.

Table 6: Distribution of respondent's partner's with regard to HIV testing and main reasons for being not tested among ANC attending Mothers, Sebeta, 2015

Variable	Frequency	Percent
Respondent's discussed with current partner about ANC use and HIV testing		
Yes	296	84.1
No	56	15.9
Respondent's Current partner positive about ANC use and HIV test		
Yes	288	97.0
No	8	3.0
Respondent's partner tested for HIV during the current pregnancy		
yes	86	24.4
No	266	75.6
Main reasons cited for respondent's partner for being not tested**		
Lack of time (Busy)	174	65.4
Living Out of Sebeta town or the country	52	19.5
Lack of awareness and knowledge	34	12.8
Has plan to be tested	34	12.8
Faithfulness of partner	33	12.4
Fear of being tested positive	31	11.6
Fear of stigma and Discrimination	26	9.8
Not willing or interested	5	1.9
Fear of rejection by wife	2	0.75
Didn't know	3	1.1

**Multiple responses possible*

5.6. Time to reach health institution and Waiting time for the services

Time spent on waiting and discussion with ANC/PMTCT counselor/provider was assessed among pregnant women, and the mean waiting time spent was 81.7 minutes. About half of the respondents, 186(49.7%) spent between 30 to 60 minutes while only 37(9.9 %) spent less than 10 minutes before seeing the counselor (Table 7). The mean waiting time for clients with their health care providers was 11.6 minutes and the range is calculated to be 40 minutes. Majority of the respondents, 322(86.1%) spent 5 to 15 minutes with counselors to get the service.

Table 7: Time spent by pregnant women for waiting and with counselor among ANC attending Mothers, Sebeta town, 2015

Characteristics	Frequency	Percent
Waiting time to see the counselor		
Less than 30 minutes	37	9.9
31-60 minutes	186	49.7
`61-90 minutes	64	17.1
More than 90 minutes	87	23.3
Time spent with counselor/provider		
5-15 minutes	322	86.1
>15 minutes	52	13.9
Amount of time spent during the visit		
Too long	215	57.5
Reasonable (just right)	141	37.7
Too short	18	4.8
Amount of time spent to reach health facility		
Up to 1 hour	343	91.7
More than one hour	31	8.3
Means of transportation used to reach health facility		
Transportation	164	43.9
On foot	210	56.1

Overall, the result showed that the time spent for waiting the service was significantly higher than the time spent for consultation with service providers. More than half, 215(57.5%) of the respondents justified that the time they spent during the visit was too much. On the other hand mother were asked how much time did it take to reach health facility, 343(91.7%) of them took one hour or less and 210 (56.1%) of them reached health center on foot.

Regarding waiting time for the service almost all service providers stated that;

“Shortage of health workers was another challenge which leads to mothers taking too long to go through PMTCT and health workers spending too little time on counseling the mothers. Even some of them come in the morning and wait for the service throughout the day. Since there is only one room for the service and we spend more time on HIV positive mothers we cannot address all clients”. (Female PMTCT Service providers)

5.7. Satisfaction of mothers with ANC/PMTCT Service

Of the total respondents, 337(90.1%) reported that they were happy with the session they had during the date of interview. On the other hand, both the number(percentages) of women who felt comfortable with their counselor’s handling of clients and who perceived presence of enough privacy were 309(82.6%)(Table 8). Similarly, 314(84%), 274(73.3%) and 114(30.5%) of respondents were satisfied with the technical competence of counselor/providers, able to see the same counselor for discussion both before and after the test and wish they had a different counselor (different sex, older, younger) respectively. On the other hand, 31(8.3%) respondent’s reported that there were things that they didn’t like during discussion about HIV/AIDS and 27(7.2%) preferred that if HIV/AIDS not be discussed during their ANC visit.

However, after principal component analysis out of eight indexes/questions (‘yes’ or ‘No’ items) to measure satisfaction only three questions were left in the model: ‘are you satisfied with the technical competence of the counselor’, ‘did you feel comfortable with your counselors handling of the client’ and ‘Was there enough privacy during your counseling’ (Cronbach’s Alpha=0.96). Over all 302(80.7%) of pregnant mothers attending ANC reported satisfaction with the ANC/PMTCT service while 72(19.3%) were not satisfied with the service.

Concerning the satisfaction of mothers to ANC/PMTCT service one service provider from Sebeta health center said;

“It is difficult to talk about full satisfaction with the service having man power and service provision room shortages. Due to this some of them get the service after waiting throughout the day while others may be appointed to the next day. This again may affect their attitude towards the service. But technically, our professionals are competent to provide the service and they were trained on PMTCT (option B+).So we hope that we are satisfying them technically”. (Male service provider)

Table 8: Subjective response of ANC client’s satisfaction towards PMTCT service provision, Sebeta, 2015

Subjective questions	Response		
	Yes, n (%)	No, n (%)	Total,N(%)
Are you happy with the session you had today?	337(90.1)	37(9.9)	374(100)
Did you satisfied with the technical competence of the counselor?	314(84)	60(16)	374(100)
Did you feel comfortable with your counselors handling of the client?	309(82.6)	65(17.4)	374(100)
Was there enough privacy during your counseling?	309(82.6)	65(17.4)	374(100)
Do you wish you had a different counselor (different sex, older, younger)?	114(30.5)	260(69.5)	374(100)
Were you able to see the same counselor for discussion both before and after the test?	242(74.5)	83(25.5)	325(100)
Is there anything you did not like during the discussion about HIV/AIDS?	31(8.3)	343(91.7)	374(100)
Would you have preferred that HIV/AIDS not be discussed during your antenatal visit?	27(7.2)	347(92.8)	374(100)

Overall, the qualitative study showed that inadequate maternal health services, shortage of man power, inadequate training of professionals in some health centers, poor male involvement, lack

of separate and adequate room for the services, poor attitude and inadequate satisfaction of mothers towards service due to waiting for long time as major barriers to the uptake of ANC/PMTCT services. The need to have continuous and sustainable awareness creation of the community about the availability and use of the services were emphasized.

5.8. Factors associated with PMTCT service Utilization

In binary logistic regression analysis, PMTCT service utilization was found to be significantly associated with eight variables. These are age of respondents, mother's educational status, mother's occupational status, husband or partner occupational status, waiting time to see the counselor/provider, respondent's discussed with their current partner about ANC use and HIV testing, respondent's partner tested for HIV during the current pregnancy and respondents satisfaction with service providers (Table 9). After binary logistic regression analysis, variables which had value less than 0.25 were added to multiple logistic regression model.

Table 9: Binary logistic regression of Socio-demographic factors influencing PMTCT service Utilization among ANC attendees, Sebeta, 2015

Characteristics	PMTCT utilization		COR(95%CI)	p-value
	Yes,n(%)	No, n(%)		
Place of residence				
Sebeta town	272(83.7)	39(79.6)	1.0	
Out of Sebeta town	53(16.3)	10(20.4)	0.76(0.36,1.62)	0.48
Age of respondent				
15-24	165(50.7)	17(34.7)	1.0	
25-34	137(42.2)	31 (63.3)	0.45(0.24,0.86)	0.01*
35-44	23(7.1)	1(2)	2.4(0.3,18.66)	0.41
Religion				
Orthodox	197(60.6)	31(63.3)	1.0	
Muslim	86(26.5)	6(12.2)	2.25(0.51,5.6)	0.08**
Protestant	42(12.9)	12(24.5)	0.55(0.26,1.12)	0.17
Marital Status				
Currently Married	296(91.6)	46(93.9)	1.0	
Not currently married	29(8.9)	3(6.1)	0.67(0.19,2.27)	0.52
Educational Status				
Illiterate	58(17.8)	6(12.2)	1.0	
Able to write and read	9(2.8)	4(8.2)	0.23(0.05,0.99)	0.048*
Grade 1-6	90(27.7)	19(38.8)	0.5(0.18,1.3)	0.15
Grade 7and above	168(51.7)	20(40.8)	0.87(0.33,2.27)	0.77

Occupational status				
House wife	200(61.5)	14(28.6)	1.0	
Merchant	52(16.0)	9(18.4)	0.4(0.17,0.98)	0.047*
Government employee	5(1.5)	4(8.2)	0.1(0.02,0.36)	0.001*
Student	4(1.2)	3(6.1)	0.1(0.02,0.46)	0.004*
Daily laborer	64(19.7)	19(38.8)	0.24(0.11,0.5)	<0.001*
Husbands /Partner occupational status[‡]				
Merchant	87(28.4)	9(19.6)	2.2(0.99,4.9)	0.05
Government employee	30(9.8)	7(15.2)	0.97(0.39,2.45)	0.96
Daily laborer	123(40.2)	28(60.8)	1.0	
Others [‡]	66(21.6)	2(4.4)	7.5(1.74,32.5)	0.007*
Husband /Partner educational status[‡]				
No formal education	49(16)	4(8.7)	2.1(0.71,6.23)	0.18**
Primary education	76(24.8)	11(23.9)	1.2(0.57,2.48)	0.65
Secondary and above	181(59.2)	31(67.4)	1.0	
Monthly income				
<=750	104(32)	14(28.6)	1.12(0.61,2.28)	0.63
>750	221(68)	35(71.4)	1.0	
Gravidity				
Primigravida	147(45.2)	23(46.9)	0.93(0.51,1.7)	0.82
Multigravida	178(54.8)	26(53.1)	1.0	
Parity				
No parity	180(55.4)	27(55.1)	1.0	
One or more parity	145(44.6)	22(44.9)	0.99(0.54,1.81)	0.97
Gestational age				
First trimester	21(6.5)	5(10.2)	0.52(0.17,1.52)	0.23**
Second trimester	141(43.4)	24(49)	0.72(0.38,1.36)	0.31
Third trimester	163(50.1)	20(40.8)	1.0	
Number of ANC visit				
First visit	126(38.8)	21(42.8)	1.0	
Second visit	109(33.5)	16(32.7)	1.13(0.56,2.28)	0.72
Third visit and above	90(27.7)	12(24.5)	1.25(0.6,2.67)	0.56
Waiting time to see the counselor				
Less than 30 minutes	35(10.7)	2(4.1)	4.9(1.01,22.9)	0.04*
31-60 minutes	164(50.5)	22(44.9)	2.1(0.99,4.4)	0.05
61-90 minutes	50(15.4)	14(28.6)	1.0	
More than 90 minutes	76(23.4)	11(22.4)	1.94(0.81,4.6)	0.14
Time spent with counselor				
5-15 minutes	277(85.2)	45(91.8)	1.0	
>15 minutes	48(14.8)	4(8.2)	1.95(0.67,5.7)	0.2**
Time to reach health facility				
One hour and below	298(91.7)	45(91.8)	1.0	
More than one hour	27(8.3)	4(8.2)	1.01(0.34,3.1)	0.97

Means of transportation used to reach health facility				
By transportation(car)	140(43.1)	24(49)	0.79(0.43,1.44)	0.44
On foot	185(56.9)	25(51)	1.0	
Respondent's discussed with current partner about ANC use and HIV testing				
Yes	268(87.6)	28(60.9)	4.5(2.3,8.9)	<0.0001*
No	38(12.4)	18(39.1)	1.0	
Partner tested for HIV during the current pregnancy				
Yes	84(27.4)	2(4.4)	13.6(2.8,65.9)	0.001*
No	223(72.6)	43(95.6)	1.0	
Satisfaction				
Satisfied	270(83.1)	32(65.3)	1.0	
Not satisfied	55(16.9)	17(34.7)	0.38(0.2,0.74)	0.004*
Attitude				
Positive attitude	204(62.8)	25(51)	1.0	
Negative attitude	121(37.2)	24(49)	0.62(0.34,1.13)	0.12**
Knowledge				
Good knowledge	205(63.1)	38(77.5)	1.0	
Poor knowledge	120(36.9)	11(22.5)	2.02(0.99,4.1)	0.05**

‡ Drivers, Carpenters, Farmer; COR=Crude Odds Ratio; CI=Confidence Interval

*statistically significant variables at $P < 0.05$ ** Candidate for multiple logistic regression

After binary logistic regression analysis, variables which had value less than 0.25 were added to multiple logistic regression model. Hence age of respondents, Occupational status of respondents, respondent's husband educational status, respondents discussion with their partner, satisfaction with the service and partner HIV test were found significant predictor of PMTCT service Utilization (Table 10). PMTCT service utilization was associated with age of mothers (25-34) age. Older women (25-34) were 54% less likely to utilize PMTCT service as compared to younger ones (15-24) ((AOR=0.46(95%CI: 0.22,0.97))). Mothers' who were house wife were more likely to utilize PMTCT service than women in other occupational categories in this study (being merchant (AOR=0.31(95%CI:0.12,0.83)), being government employee (AOR=0.05(95%CI:0.01,0.28)), being student (AOR=0.1(95%CI:0.01, 0.44)) and being daily labourer (AOR=0.13(95%CI:0.05,0.33))). Mothers whose husband /Partners didn't attends formal education were 3.3 times more likely to utilize PMTCT service when compared with those who attended secondary and above schooling (AOR=3.3(95%CI: 1.1, 9.9)). Respondents who had discussion with their current partner about ANC use and HIV testing were about 6 times more

likely to utilize PMTCT service when compared to those who had no discussion (AOR=6.1(95%CI:2.6,14.1)). Similarly, Mothers whose partner tested for HIV during their current pregnancy were 8 times more likely to utilize PMTCT service when compared to those partners who didn't test for HIV(AOR=8.2(95%CI:1.9,34.5)). Clients who were not satisfied by the service were 54% less likely to utilize PMTCT service when compared with those who were satisfied by the service (AOR=0.46(95%CI: 0.2, 0.99))

Table 10: Multiple logistic regression analysis showing predictors of PMTCT service utilization ANC attending pregnant mothers, Sebeta, 2015

Characteristics	PMTCT service utilization		COR(95%CI)	AOR(95%CI)	p-value
	Yes, n (%)	No, n (%)			
Age of respondent					
15-24	165(50.7)	17(34.7)	1.0	1.0	
25-34	137(42.2)	31 (63.3)	0.45(0.24,0.86)	0.46(0.22,0.97)	0.04*
35-44	23(7.1)	1(2)	2.4(0.3,18.66)	1.7(0.19,15.6)	0.62
Occupational status					
House wife	200(61.5)	14(28.6)	1.0	1.0	
Merchant	52(16.0)	9(18.4)	0.4(0.17,0.98)	0.31(0.12,0.83)	0.02*
Government employee	5(1.5)	4(8.2)	0.1(0.02,0.36)	0.05(0.01,0.28)	0.001*
Student	4(1.2)	3(6.1)	0.1(0.02,0.46)	0.1(0.01,0.44)	0.005*
Daily laborer	64(19.7)	19(38.8)	0.24(0.11,0.5)	0.13(0.05,0.33)	<0.001*
Husband educational status					
No formal education	68(20.9)	7(14.3)	2.1(0.71,6.23)	3.3(1.1,9.9)	0.032*
Primary education	76(23.4)	11(22.4)	1.2(0.57,2.48)	1.23(0.51,2.99)	0.64
Secondary and above	181(55.7)	31(63.3)	1.0	1.0	
Respondent's discussed with their current partner					
Yes	268(82.5)	29(59.2)	4.5(2.3,8.9)	6.1(2.6,14.1)	<0.0001*
No	57(17.5)	20(40.8)	1.0	1.0	
Respondent's partner HIV tested					
Yes	84(25.8)	2(4.1)	13.6(2.8,65.9)	8.2(1.9,34.46)	0.004*
No	241(74.2)	47(95.9)	1.0	1.0	
Service Satisfaction					
Satisfied	270(83.1)	32(65.3)	1.0	1.0	
Not satisfied	55(16.9)	17(34.7)	0.38(0.2,0.74)	0.46(0.2,0.99)	0.04*

*statistically significant variables at $P < 0.05$; AOR=adjusted Odds Ratio; CI=Confidence Interval

CHAPTER SIX

6. 1. Discussion

The current study attempted to determine the prevalence of Prevention of mother to child transmission of HIV service utilization and factors associated with the utilization of PMTCT services integrated into routine ANC programmes at public health facilities in Sebeta town. The study also demonstrated potential areas for improving PMTCT interventions as part of the ANC services.

This study revealed that PMTCT service utilization (HIV testing acceptance) among ANC attendees was found to be 86.9% while 13.1% didn't test. This study is consistent with the study conducted in Gondar, North west Ethiopia that that showed 82.5% of pregnant women accepted HIV counseling and testing(36). The finding of this result is higher than the 2014 national coverage (57%)(37), but is lower than reports from Addis Ababa(94%)(14),Hawassa (96.1%)(38) and South Omo Zone(96.5%)(30). Among those mothers who tested positive three refused their test result. The possible reasons for this could be due to program being implemented in opt-out approach with high level of acceptability and high level of awareness towards PMTCT

Among the socio-demographic variables, age of mothers was significantly associated with utilization of PMTCT service. Older women (25-34) were 54% less likely to utilize PMTCT service as compared to younger ones (15-24). This finding is consistent with the study conducted in Dire Dawa in which older age groups (≥ 30 years) were 78% less likely to accept voluntary HIV testing as compared to the younger ones (≤ 19 years)(27)and in Gondar in which 15-24 aged mothers were 5.6 more likely to accept PITC in the ANC clinics of Gondar town, north-west Ethiopia(36). But, it contradicted with study conducted in Debre Markos in which socio-demographic variables showed no association(39) and study conducted in Nigeria in which teenagers were 3 times less likely to utilize the service when compared with the older women(40). This could be that younger and older women may differ in their perceived risk of HIV and understanding of the importance of HIV testing. The possible reason could be recent increased awareness creation and advocacy targeting youths and adults.

Another socio-demographic variable which had association with PMTCT service utilization in this study was mother's occupational status. Mothers' who were house wife were more likely to utilize PMTCT service than women in other occupational categories in this study. But the finding contradicted with the study conducted in Dire Dawa where employed women were 4 times more likely to be tested than unemployed women(27). The findings of this study also contradicted with the study conducted in Debre Markos town, Northwestern Ethiopia, which affirmed that government and private employed pregnant women were eight and four times more likely to be ready when compared with the housewives respectively(28). The difference might be the awareness creation activity made up to bottom household level by health extension workers and health development army.

In this urban setting, pregnant women went to ANC clinics for check-ups and HIV testing. Nearly 60% of the respondents visited the ANC clinic two or more times during the current pregnancy and the reason for their visit was majorly for ANC (91.4%). This is consistent with a study conducted in Dire Dawa Dil Chora Hospital that showed women who attended two or more ANC follow-ups at a hospital were about three times more likely to accept HIV Counseling and Testing than those with lower follow-ups(27) and a similar report from East Gojjam, Ethiopia (41).Such frequent visits provide an opportunity for teaching mothers about MTCT and identifying HIV-infected women for PMTCT interventions.

This study revealed that Mothers whose husband /Partners didn't attends formal education were 3.3 times more likely to utilize PMTCT service when compared with those who attended secondary and above schooling. This finding is contradicted with the study conducted in East Hararge Zone which showed mothers who had a partner educated beyond the elementary level were 3.3 times more likely to utilize than elementary level(42). The possible reason might be educational status of mother's husband is low they may have awareness on this issues from different media sources including awareness in the community by health extension workers, health development army and one to five network.

This study showed 74.6% of mothers knew that a mother with HIV can pass the virus to her baby and 150(40.1%) of them knew it can be prevented by ARV drug. This finding is lower than the study conducted in a similar setting in Addis Ababa (90.3%)(14),Hawassa referral hospital(90.1%)(38) and Uganda (93%)(23),but consistent with the study conducted in East

Gojjam, Ethiopia (77.5%)(41) and Sudan(79%)(43). Overall about 65% of mothers had good knowledge in this study which is higher than report from Northwestern Ethiopia(42%)(28), but lower than the study from Dire Dawa (79.5%) (27).This might be due to health education program implantation and community awareness about MTCT vary from region to region. This level of knowledge may be attributed to various health education programmes being conducted at health facility and awareness created at community levels in collaboration with health extension workers and Health development army. The high level of knowledge of mothers about MTCT is very critical for prevention of the transmission of the virus from HIV-positive women to her child, and programmes should utilize various means of increasing the awareness and knowledge of the community through proper IEC/BCC interventions. Similarly, it is critical to strength health extension workers and health development army in the community.

This study revealed that only about 25% of mother`s husbands/partners was tested for HIV during their current pregnancy due to different reasons like being busy, living outside of the town/country, fear of test result and lack of knowledge. Multiple logistic regressions showed partner/male involvement had a significant association with PMTCTC service utilization. Respondent`s who had discussion about ANC and HIV testing with their husbands were about 6 times more likely to utilize PMTCT service when compared with those who had no discussion with their partners. This finding is consistent with the research conducted in Gambella that showed women who did not discuss with their husband about HIV testing was about eight and half times more likely to refuse HIV testing than those who had discussed with their husbands(44). Similarly, respondent`s whose partners tested for HIV during current pregnancy were about 8 times more likely to utilize PMTCT service which is similar with the report from Botswana, mothers whose partner were tested for HIV were about 3 times more likely to accept HIV counseling and testing(45). This finding is consistent with the study from Addis Ababa, Adama, Awassa and Malawi(3,12,14,46). Studies conducted in East Gojjam Zone(41), Mekelle(47), Hawassa referral hospital(38) and Addis Ababa(14) showed that the level of male involvement in ANC/ PMTCT was 15.7%, 20.1%, 52.7% and 60% respectively. This finding is consistent with the research conducted in Sub-Saharan African countries(48), Zambia(49) and Malawi(50) that showed low male involvement hindered utilization of PMTCT services. Difficulty of deciding to initiate ARV by pregnant mothers due to lack of male involvement during HCT has been considered as one of the critical barriers to uptake of PMTCT services.

Majority of the women tested for HIV may decide not to disclose their HIV sero-status to their male partners due to consequences including divorce, domestic violence or fear of being abandoned by their husbands and families. Therefore, a strategy should be sought to increase the male involvement in PMTCT/HCT through raising awareness, encouraging couple counseling and testing, advocating and promoting HCT and PMTCT, and reducing stigma and discrimination.

Clients' average waiting time and average duration of stay with their health care providers were 82 minutes and 12 minutes respectively. According to this study even some of them appointed to the next day after waiting for a long period of time, as noted from qualitative study from service providers. *"Since there is shortage of man power and service delivery room some of the clients are waiting for long time; even appointed to the next day"*. The average waiting time in this finding was by far higher than the study from Adama. In Adama clients' average waiting time and average duration of stay with their health care provider were 24.5 minutes and 12.8 minutes respectively(12). This finding is consistent with a study conducted in Addis Ababa; that reported time spent for waiting the service (more than 30 minutes) was significantly longer than the time spent for consultation with service providers (12 minutes)(14).A study from Malawi also confirmed that long waiting time for PMTCT service was a major barrier (9). The magnitude of this problem might be due to large number of clients registering for ANC at some health facilities, shortage of man power (service providers).

Client satisfaction is one of the factors affecting utilization of ANC/PMTCT services. In this study 90.1% respondents reported that they were happy with the session they had during the date of interview. On the other hand, 82.6% of respondents felt comfortable with their counselor's handling of clients and perceived presence of enough privacy. Similarly, 84% of respondents were satisfied with the technical competence of counselor. Over all in this study a high proportion, 80.7%, of clients reported that they were satisfied with the service they had received. This finding was consistent with the study from Addis Ababa (89.8%)(35), Adama (74.7%)(12), FMOH 2013/2014 report(77%)(7),Tanzania (75.2%)(51) and Kenya (89%)(52).In this study clients who were not satisfied by the service were 54% less likely to utilize PMTCT service (AOR=0.46(95%CI: 0.2, 0.99)). A study from Gambella also confirmed that clients who were less satisfied with the service were six times more likely to refuse HIV test than who were more

satisfied with the service(44). This high proportion of satisfied clients might be due to the fact that clients may not report dissatisfaction with services even when services seem to be poor. In order to improve acceptability and uptake of the ANC/ PMTCT services, consideration should be given to improve quality of the services. Similarly, 61.1% of mothers had positive attitude towards PMTCT service utilization. This finding is consistent with the study from Sudan (72.8%)(43), but lower than the study conducted in Hawassa referral hospital(97.4%)(38). Although attitude didn't show statistically significant association in this study, a study from Dire Dawa(27) and Gondar(36) showed mothers who had positive attitude towards HIV testing were nine times and about six times more likely to accept voluntary HIV testing respectively than those who had negative attitudes.

6.2. Limitation of the study

- Since the study was health facility based and the pregnant women may not represent the general populations it might be difficult to make inferences.

CHAPTER SEVEN

7. Conclusion and recommendation

7.1. Conclusion

This study revealed that prevention of mother to child transmission of HIV service utilization is high among ANC attendees and knowledge of mothers about MTCT/PMTCT of HIV was also high. Male partners' HIV counseling and testing during the current pregnancy was reported to be low. Still pregnant mothers with positive test result refused their result and some of them did not collect ARV drug due to different reasons: mainly fear of her partner and fear of stigma and discrimination from the community. Age of mothers, mother's and her husband's occupational status, having discussion with her partner, male involvement and satisfaction with the service were associated with PMTCT service utilization. Lack of full implementation of the PMTCT service is mainly due to the weakness in the health centers to implement the program. Understanding factors associated with utilization of PMTCT services is an important step toward improving the implementation of the interventions. Waiting for a long time for the service, lack of awareness and knowledge about the MTCT, shortage of PMTCT service providers, lack of adequate and separate room for ANC/PMTCT services, and for fear of being positive for HIV were the main barriers preventing mothers from PMTCT service utilization.

7.2. Recommendation

Based on the study findings the following recommendations are suggested:

- The regional health bureau should increase number of professionals in the health center especially at town level to fulfill service needed
- Health office/health centers should strengthen mother to mother group and health development army as well as health extension workers to increase awareness creation on ANC/MTC/PMTCT for the community up-to bottom house hold level
- Health office/health centers should construct adequate service provision rooms to ensure service users privacy
- Health office/health centers should reduce waiting time of mothers for the service
- Service providers should not to appoint mothers to the next day for the service; Mothers should get the necessary services the day they visited the health institution
- ANC/PMTCT service providers should use the opportunity to promote the service
- Service providers should use couple counseling as a strategy to improve male involvement
- Service providers should provide quality service(especially pre-test counseling) as much as they can
- Health extension workers should focus and work on increasing community/ household's awareness or knowledge for the full utilization of ANC/PMTCT service.
- Providing community based health education by targeting male involvement in ANC/PMTCT services
- Further research should be conducted to evaluate effective use or uptake of ARV drug among HIV-positive pregnant women attending health center who took the ARV drug

References

1. WHO. HIV REPORTING :Global update on health sector response. 2014;(July):174.
2. WHO. PMTCT Strategic Vision:Preventing mother-to-child transmission of HIV to reach the UNGASS and Millennium Development Goals. Switzerland: WHO; 2010.
3. Hailemariam A. Utilization of PMTCT services in Awassa town , Ethiopia. University of Bergen,Norway; 2008. p. 1–93.
4. FHAPCO. Country progress report on the HIV response. Addis Ababa ,Ethiopia; 2014 p. 1–51.
5. Nigatu T, Woldegebriel Y. Analysis of the prevention of mother-to-child transmission (PMTCT) service utilization in Ethiopia: 2006-2010. *Reprod Health*. BioMed Central Ltd; 2011 Jan;8(1):6.
6. FMOH. National strategic plan for Elimination of Mother to Child Transmission of HIV (e-MTCT of HIV) 2013 - 2015. Addis Ababa,Ethiopia; 2013 p. 1–70.
7. FMOH. Health sector Development programme IV Annual performance report 2013/2014. Addis Ababa,Ethiopia; p. 122.
8. WHO. Towards Universal Access:Scaling up priority HIV/AIDS interventions in the health sector,Progress report 2010. Geneva; 2010 p. 1–150.
9. Nyasulu JCY. Factors Contributing to the Low Uptake of PMTCT Services in Blantyre and Balaka Rura Malawi:Masters thesis. 2007;(December):1–82.
10. Tesfahun H. Determining Factors that Affect Pregnant Women ’ s Utilization of PMTCT Services in Ethiopia : The Case of Health Facilities at Nazareth / Adama. Addis Ababa University; 2006. p. 1–97.
11. UNICEF. Count down To Zero: Elimination of New HIV infections among children by 2015 and Keeping their mothers alive Unite,Ethiopia. 2012;(July):4.
12. Asefa A, Mitike G. Prevention of mother-to-child transmission (PMTCT) of HIV services in Adama town, Ethiopia: clients’ satisfaction and challenges experienced by service providers. *BMC Pregnancy Childbirth*. BMC Pregnancy and Childbirth; 2014 Jan;14(1):57.
13. Muniu E, Karama M. Barriers to Uptake and Effective Integration of PMTCT into SRH Services in Selected Health Facilities in Nairobi County , Kenya. *J Pediatr Neonatal Care*. 2014;1(4):3–7.
14. Deressa W, Seme A, Asefa A, Teshome G, Enqusellassie F. Utilization of PMTCT services and associated factors among pregnant women attending antenatal clinics in Addis Ababa, Ethiopia. *BMC Pregnancy Childbirth*. 2014 Jan;14(1):328.
15. Lerebo W, Callens S, Jackson D, Zarowsky C, Temmerman M. Identifying factors associated with the uptake of prevention of mother to child HIV transmission programme in Tigray region, Ethiopia: a multilevel modeling approach. *BMC Health Serv Res*. 2014 Jan;14(1):181.

16. Moges G. Factors influencing Utilization of PMTCT services in Addis Ababa,Ethiopia. 2009;(september):75.
17. FHAPCO. Annual Performance Report of Multisectoral HIV / AIDS Response. Addis Ababa; 2010 p. 48.
18. WHO. Elimination of New Paediatric HIV Infections and Congenital Syphilis in Asia-Pacific Asia-Pacific 2011-2015: Conceptual Framework Monitoring and Evaluation Guide. 2011.
19. UNAIDS. UNAIDS report on the global AIDS epidemic. 2013 p. 198.
20. Worku T. Utilization of PMTCT among pregnant women attending ANC :Ethiopia: Master of Public Health Thesis. Addis Ababa University; 2007. p. 78.
21. Mnyani CN, Simango A, Murphy J, Chersich M, McIntyre J a. Patient factors to target for elimination of mother-to-child transmission of HIV. *Global Health*. 2014 Jan;10(1):36.
22. Salim MN. Association between PMTCT services utilization among HIV positive mothers and HIV status of their HIV-exposed children in Mtwara district ,Tanzania. MPH thesis. 2012;(November):74.
23. Harms G, Schulze K, Moneta I, Baryomunsi C, Mbezi P, Poggensee G. Mother-to-child transmission of HIV and its prevention: awareness and knowledge in Uganda and Tanzania. *SAHARA-J J Soc Asp HIV/AIDS*. 2005 Jul;2(2):258–66.
24. Kominami M, Kawata K, Ali M, Meena H, Ushijima H. Factors determining prenatal HIV testing for prevention of mother to child transmission in Dar Es Salaam, Tanzania. *Pediatr Int*. 2007 Apr;49(2):286–92.
25. Moth IA, Ayayo ABCO, Kaseje D. Assessment of utilisation of PMTCT services at Nyanza Provincial Hospital, Kenya. *SAHARA-J J Soc Asp HIV/AIDS*. 2005 Jul;2(2):244–50.
26. Farquhar, Carey; Kiarie, James N.; Richardson BA. et al. Antenatal couple counseling increases uptake of interventions to prevent HIV. 2004.
27. Demissie A, Deribew A, Abera M. Determinants of acceptance of voluntary HIV testing among antenatal clinic attendees at Dil Chora Hospital , Dire Dawa ,. *Ethiop J Heal Dev*. 2006;
28. Moges Z, Amberbir A. Factors associated with readiness To VCT Service Utilization among Pregnant Women attending Clinics in Northwestern Ethiopia : A Health Belief Model Approach. *Ethiop J Heal Sci*. 2007;21(5):115–22.
29. FMOH. Accelerated Plan for scaling up PMTCT service in Ethiopia. Addis Ababa ,Ethiopia; 2011 p. 39.
30. Godana W. Prevalence of HIV/AIDS and its Associated Factors among Prevention of Mother-to-Child Transmission (PMTCT) Service Users in Jinka Town Health Institutions, South Omo Zone, South Ethiopia. *Sci J Public Heal*. 2013;1(3):125.

31. Maedot P1, Haile A, Lulseged S BA. Determinants of vct uptake among pregnant women attending two ANC clinics in Addis Ababa City: unmatched case control study. 2005;
32. Central Statistics Agency. Ethiopia Demographic Health Survey 2011. Addis Ababa; 2011 p. 452.
33. Newman and Andersen. Andersen and Newman Framework of Health Services Utilization. 1995;
34. Central Statistical Agency. The 2007 National Census Preliminary Report for Ethiopia. Addis Ababa , Ethiopia; 2007 p. 385.
35. Ismail H, Ali A. Pregnant women ' s satisfaction and comprehension level of information given during HIV Counseling and Testing for PMTCT in public health facilities in Addis Ababa. 2007;9.
36. Alene M and. Assessment of utilization of provider-initiated HIV testing and counseling as an intervention for prevention of mother to child transmission of HIV and associated factors among pregnant women. BMC Pregnancy Childbirth. 2012;1–8.
37. FMOH. Sector, Health Programme, Development. Addis Ababa , Ethiopia; 2014.
38. Abajobir AA, Zeleke and AB. AIDS & Clinical Knowledge , Attitude , Practice and Factors Associated with Prevention of Mother-to-Child Transmission of HIV / AIDS among Pregnant Mothers. 2013;4(6).
39. Tsegay G, Edris M, Meseret S. Assessment of voluntary counseling and testing service utilization and associated factors among Debre Markos University Students, North West Ethiopia: a cross-sectional survey in 2011. BMC Public Health. 2013 Jan;13(1):243.
40. Amoran OE, Salami OF, Oluwole F a. A comparative analysis of teenagers and older pregnant women in the utilization of prevention of mother to child transmission [PMTCT] services in, Western Nigeria. BMC Int Health Hum Rights. BMC International Health and Human Rights; 2012 Jan;12(1):13.
41. Belachew A, Rh MPH, Mariam AG. Factors Affecting Acceptance of HIV Counsel- ing & Testing Among Antenatal Care Atten- dants : With Emphasis on Role of Male Partners. 2012;3(4):1–11.
42. Wagaw D, Tamiru A, Lulu K. Beyond Prong 3 : Factors Influencing PMTCT Service Utilization in East Hararge Zone , Oromia Region , Ethiopia. 2014;126:2014.
43. Mahmoud MM, Nasr AM, Gasmelseed DEA, Abdalelhafiz MA, Elsheikh MA, Adam I. Knowledge and Attitude Toward HIV Voluntary Counseling and Testing Services Among Pregnant Women Attending an Antenatal Clinic in Sudan. 2007;473(January):469–73.
44. Fanta W, Worku A. Determinants for refusal of HIV testing among women attending for antenatal care in Gambella Region, Ethiopia. Reprod Health. 2012 Jan;9:8.
45. Creek T, Ntuny R, Mazhani L, Moore J, Smith M, Han G, et al. Factors associated with low early uptake of a national program to prevent mother to child transmission of HIV (PMTCT): results of a survey of mothers and providers, Botswana, 2003. AIDS Behav. 2009 Apr;13(2):356–64.

46. Nyondo AL, Muula AS, Chimwaza AF. Assessment of strategies for male involvement in the prevention of mother-to-child transmission of HIV services in Blantyre, Malawi. 2013;1:1–10.
47. Haile F, Brhan Y. Male partner involvements in PMTCT: a cross sectional study, Mekelle, Northern Ethiopia. BMC Pregnancy Childbirth. BMC Pregnancy and Childbirth; 2014 Jan;14(1):65.
48. Kalembo FW, Yukai D, Zgambo M, Jun Q. Male partner involvement in prevention of mother to child transmission of HIV in sub-Saharan Africa : Successes , challenges and way forward. 2012;2(1):35–42.
49. Tshibumbu DD. Factors influencing men`s involvement in PMTCT of HIV programmes in mambwed district, Zambia. Masters thesis. 2006;(November).
50. Muheriwa SR, Chimwaza A, Maluwa AO, Nyasulu BM, Pindani M. Beliefs and practices of young women on utilization of prevention of mother to child transmission of HIV services in Malawi. 2013;5(7):1172–9.
51. Mb L, Gi M, Ak K. Clients ` satisfaction with services for prevention of mother-to- child transmission of HIV in Dodoma Rural district . 2008;5(3).
52. Omondi MP, Ongo D, Ngugi E, Nduati RW. The quality of PMTCT services and uptake of ARV prophylaxis amongst HIV positive pregnant women in Kakamega district , Kenya. 2012;1(2):55–61.

Annexes

English version Questionnaires

JIMMA UNIVERSITY
COLLEGE OF HEALTH SCIENCES
DEPARTMENT OF EPIDEMIOLOGY

Hello!

I am Hailu Merga; I came from Jimma University, College of Public Health and Medical Sciences, Department of Epidemiology. I am here to interview mothers and health workers about PMTCT service utilization in the health institutions of Sebeta town.

I would like to ask your opinion of PMTCT service utilization and factors influencing the service, in general. All comments, both positive and negative, are welcome. Therefore, your honest and genuine participation by responding to the questions prepared is highly appreciated and helpful to attain the objective of the study. Your name will not be written on this form and no individual response will be reported to anybody. Hence, your answers are completely confidential. If you are unable to continue an interview, I may stop the interview process at any time. I greatly appreciate your taking time to speak with me.

Are you willing to participate in the interview? If yes, proceed; if no, thanks and stop here.

Consent Form

I am informed all about the purpose and benefit of the study and I have understood that no information about me will be exposed to other party. After taking all the above into consideration, I the undersigned have:

1. Agreed to participate in the study. If so, continue
2. Disagreed to participate in the study. If so, Say “Thank you” and discontinue.

Signature: _____ Date: _____

Data collector's: Signature _____ date _____

Questionnaire for Exit Interview

Name of the health institution: _____ Interview date in G.C.: _____

Code: _____

Name of the interviewer: _____

<i>S No.</i>	<i>Question</i>	<i>Possible responses</i>	<i>Skip patterns</i>
A01	Address	1. Sebeta town 2. Out of Sebeta town	
A02	Completed years of age	_____ years	
A03	Religion	1. Orthodox 2. Muslim 3. Protestant 4. Other (Specify) _____	
A04	Marital status	1. Single 2. Married 3. Divorced 4. Widowed	
A05	Maximum attained educational status	1. Illiterate 2. Able to write and read 3. Grade 1-8 4. Grade 9-12 5. College and above	
A06	Ethnicity	1. Oromo 2. Amhara 3. Tigre 4. Others (specify) _____	
A07	Occupational status	1. Housewife 2. Merchant 3. Government employee 4. Student 5. Daily laborer 6. Others (specify) _____	
A08	Husband /Partner occupational status	1. Merchant 2. Government employee 3. Student 4. Daily laborer 5. Others (specify) _____	
A09	Husband /Partner educational status	1. Illiterate 2. Able to write and read 3. Grade 1-8 4. Grade 9-12 5. College and above	
A010	Average monthly income	_____ in birr	
A011	What means of transportation did you use to come to this health facility	1. Private car 2. Public transport 3. On foot	

A012	What amount of time did it take you to reach this health facility from your home ?	_____ in minute		
A013	Is this facility convenient to you to continue your care here in the future ?		YES <input type="checkbox"/>	
			NO <input type="checkbox"/>	
A014	• Gestational age in week			
	• Gravidity			
	• Parity			
A015	Have you talked to your counselor today about:		YES	NO
	◆ Having an HIV test			
	◆ Receiving test results			
	◆ Issues arising from HIV test taken Some time ago			
	◆ Other issues (specify)			
Knowledge part				
A016	HIV can be transmitted from mother to her child		Yes <input type="checkbox"/>	
			No <input type="checkbox"/>	
			I don't know <input type="checkbox"/>	
A017	HIV be transmitted from a mother to her child		Yes	No
	During pregnancy			
	During child birth			
	After child birth during breast feeding			
A018	MTCT of HIV prevention		Yes	No
	Giving ART			
	Avoiding breastfeeding			
	Caesarian Section delivery			
A019	Have you discussed with your counselor today about		YES	NO
	◆ HIV/AIDS			

		◆ Infant feeding practice			
		◆ MTCT & PMTCT			
A020	Have you discussed with your current partner about ANC service and HIV testing?		YES <input type="checkbox"/>		→ Q.A022
			NO <input type="checkbox"/>		
			No current partner <input type="checkbox"/>		
A021	Is your current partner positive about ANC use and HIV testing?		YES <input type="checkbox"/>		
			NO <input type="checkbox"/>		
A022	Are you tested for HIV in your current pregnancy?		YES <input type="checkbox"/>	→ Q.A023& Q.A012.8	
			NO <input type="checkbox"/>	→ A024	
A023	If yes, what is your test result? _____		Positive <input type="checkbox"/>	→ QA025	
			Negative <input type="checkbox"/>		
A024	If your answer for Q A022 is “No”, what is your reason for not being tested?	<ol style="list-style-type: none"> 1. Fear of rejection by my partner/husband 2. Fear of stigma and discrimination 3. Fear of being tested positive for HIV 4. Tested before current pregnancy 5. Lack of interest and psychological unpreparedness 6. Lack of awareness and knowledge 7. Absence of counselor/provider 8. Religious beliefs 9. I do not want to respond to this question 10. Other _____ 			
A025	Have you collected drug/prophylaxis?		Yes <input type="checkbox"/>		→ QA026
			No <input type="checkbox"/>		
A026	If no, why? _____				
A027	Is your current partner tested for HIV in the time of your current pregnancy?		YES <input type="checkbox"/>	→ Q.A028	
			NO <input type="checkbox"/>		
A028	If “NO”, what is his reason for not being tested?	<ol style="list-style-type: none"> 1. Fear of rejection by wife 2. Fear of stigma and discrimination 3. Fear of being tested positive for HIV 4. Lack of time (busy) 5. Faithfulness of partners 6. Lack of awareness or knowledge 7. Out of Sebeta or the country 8. Has a plan to be tested 			

		9. Not willing (or interested) 10. Other _____ 11. I don't know	
A029	Why did you come to the ANC clinic?	1. Only for ANC checkup 2. To test for HIV 3. To receive treatment to protect my baby from HIV 4. Others	
A030	How many visits have you made to your counselor at this clinic?	_____ visits	
A031	Are you happy with the session you had today?	YES <input type="checkbox"/> NO <input type="checkbox"/>	
A032	How did you first come to the health centre? 1. Referred (specify by whom) _____ 2. Recommended to come (e.g. by 3. Partners /friend 4. Just dropped in 5. Other (specify)		
A033	How much time did you spend: (in minute)		
	◆ Waiting to see your counselor today	_____ minute	
	◆ In the session with your counselor today	_____ minute	
A034	Would you say that the amount of time you spent was:	Too much <input type="checkbox"/> Just right (reasonable) <input type="checkbox"/> Too short <input type="checkbox"/>	
Satisfaction part			
A035	Are you satisfied with the technical competence of the counselor?	YES <input type="checkbox"/> NO <input type="checkbox"/>	
A036	Did you feel comfortable with your counselors handling of the client?	YES <input type="checkbox"/> NO <input type="checkbox"/>	
A037	Was there enough privacy during your counseling?	YES <input type="checkbox"/> NO <input type="checkbox"/>	
A038	Do you wish you had a different counselor (different sex, older, younger)?	YES <input type="checkbox"/>	

		NO <input type="checkbox"/>	
A039	Were you able to see the same counselor for discussion both before and after the test?	YES <input type="checkbox"/> NO <input type="checkbox"/>	
A040	Is there anything you did not like during the discussion about HIV/AIDS?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	→ QA041
A041	If your answer for question A040 is <i>yes</i> , please. What is it? _____		
A042	Would you have preferred that HIV/AIDS not be discussed during your antenatal visit?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	→ QA043
A043	If your answer for question A026 is <i>yes</i> , <i>why</i> ? _____		
A044	Would you come back to this clinic for your care?	YES <input checked="" type="checkbox"/> NO <input checked="" type="checkbox"/>	→ QA045 → QA046
A045	If your answer for question A044 is <i>yes</i> , why? _____		
A046	If your answer for question A044 is <i>No</i> , why not? _____		
A047	If a friend or relative were in a similar position to you before you came to the service, would you recommend that he/she came to the service?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	→ A048
A048	If your answer for question A047 is No, why not? _____		
A049	Have you recommended the service to anyone else? (Specify who and how many people) _____ _____	YES <input type="checkbox"/> NO <input type="checkbox"/>	
A050	Where do you like to deliver in the current pregnancy?	<ul style="list-style-type: none"> • Health institution • At home <input type="checkbox"/> 	

Attitude part			
A051	PMTCT service is very important for pregnant women and their unborn	<ol style="list-style-type: none"> 1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree 	
A052	PMTCT service is very important in the reduction of child mortality and morbidity as well as improving maternal health	<ol style="list-style-type: none"> 1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree 	
A053	Pregnant women should be screened for HIV during pregnancy	<ol style="list-style-type: none"> 1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree 	
A054	ARV Drug given for pregnant women will not going to affect women and her unborn child?	<ol style="list-style-type: none"> 1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree 	
A055	ARV drug or prophylaxis is effective to prevent MTCT of HIV	<ol style="list-style-type: none"> 1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree 	

**BARRIERS TO THE PREVENTION OF MOTHER-TO-CHILD
TRANSMISSION OF HIV SERVICE IN SEBETA TOWN, 2015**

Key informant in-depth interview guide on barriers and quality of PMTCT services.

Qualitative Study

I. Consent Form

Hello! My name is Hailu Merga. I came from Jimma University College of Health sciences Department of Epidemiology. I am here to collect information on barriers to the prevention of mother-to-child transmission of HIV (PMTCT) service in Sebeta town. The purpose of this study is to understand factors and barriers that hinder the effective provision and utilization of PMTCT services. We are interviewing many key informants in health facilities

Participation in this interview or discussion is based on your willingness; you can withdraw from the discussion or study at any time. We would very much appreciate your kin participation in this study. In addition, your personal identification will not be recorded or written. We will assure you that whatever information you are providing us will only be used for the study purpose and data will be handled only by the research team. While we are collecting the data it is difficult to write down everything thus, we will tape record our discussion.

Are you willing to participate in the study? ____ (Yes/No). If yes, continue.

**BARRIERS TO THE PREVENTION OF MOTHER-TO-CHILD
TRANSMISSION OF HIV SERVICE IN SEBETA TOWN, 2015**

Key informant in-depth interview guide on quality of PMTCT services.

Name of the health center: _____ Date of interview: _____

General Information about Key Informant

<i>Key informant</i>	<i>Age (yrs)</i>	<i>Sex</i>	<i>Profession</i>	<i>Position</i>

Guide Questions

1. Can you please tell me how do you understand barriers to maternal health services?
2. How do you explain the barriers to the implementation of PMTCT services in Sebeta town?

Probe:

- Determinants of the barriers
- Any change over time
- Any new institutional intervention strategies to reduce the barriers

3. Can you please tell me the major barriers that affect PMTCT service in your area?

Probe:

- Lack of acceptance of services by users
- Lack of providers
- Provider’s professional incompetence
- Lack of facilities, equipment and supplies
- Lack of supervision
- Others

4. What do you think about the status of community PMTCT interventions in your locality? Probe:
 - a. TTBA, Mothers Group
 - b. Health development army

5. What changes have been brought by urban health extension workers? Probe:
 - a. PMTCT acceptance and service utilization

6. What should be done to reduce or avoid barriers to PMTCT services in your locality? Probe:

- Advocacy to scale up the acceptance of PMTCT services
- Ongoing training and supervision for providers
- Infrastructure strengthening and provision of equipment and supplies
- Others

7. Who do you think is responsible to reduce the barriers to the PMTCT service programs? _____

GAAFANNOO AFAAN DROMOO

YUNIVARSIITII JIMMAA

KOLLEEJJII SAAYINSII FAYYAA

MUUMMEE BARNOOTA IPPIDIMOOLAJII

Ani **Hayiluu Margaa** Jedhama.Kanan dhufe Yunivarsiitii Jimmaa Kolleejjii Saayinsii Fayyaa Muummee barnoota Ippidimoolajii ti. Ani amma kanan as jiru Magaalaa Sabbataa keessatti waa`ee Tajaajila HIV haadha ulfaa irraa gara daa`imaa isheetti akka hin darbineef kennamuu qabuu (PMTCT Services) fi sababa tajaajilli kun haalaan hin fudhatamnee fi hin kennamne irratti qorannoo gaggeessuu barbaadeni.

Yaada keessan walii galaa tajaajila kana irratti qabdan isin gaafachuun barbaada.Yaadni keessan kamiyyuu ni keessummeeffama. Kanaaf ,hirmaannaa fi amanamummaan gaafannoo kana deebisuun keessan kaaayyoo qorannoo kanaa galmaan ga`uu keessatti ga`ee olaanaa taphata. Maqaan keessan hin barreeffamu akkasumas deebiin nama dhuunfaa kamiyyuu qaama birootti dabarfamee hin kennamu. Kanaaf deebiin keessan iccitiidhaan kan kaa`amuu ta`a. Gaaffiilee kanaaf deebii kennuu fi dhiisuun akkasuams yeroo barbaaddanitti addaan kutuuf mirgi keessan eegamaadha.

Gaafannoo kana keessatti hirmaachuuf eeyyamamaadhaa? Eyyee yoo ta`e itti fufaa; Yoo lakki ta`e galatoomaa ,asumatti dhaabaa!

Foormii walii galtee

Faayidaa fi kaayyoo qorannoo kanaa hubadheera akkasumas ragaaleen ani kennu qaama biraa kamittuu akka hin kennamne hubadheera. Waantota armaan olii kana yaada keessa ergan galchee booda akka armaan gadiitti

1. Irratti hirmaachuuf walii galeera yoo ta`e itti fufaa
2. Irratti hirmaachuuf itti walii hin galle Yoo ta`e “galatoomaa” , addaan kutaa

Mallattoo deebii kennaa _____Guyyaa _____

Mallattoo Ragaa Funaanaa _____Guyyaa _____

Gaaffilee Bar-gaaffiif qophaa `an

Maqaa dhaabata Fayyaa _____ Guyyaa Gaafatame _____

Maqaa gaafataa _____

Gaaffilee Waa`ee Hawaasaa fi Dimoogiraafii

Koodii _____

Lakk	Gaaffillee	Deebilee eegaman	darbii
A01	Teessoo	1. Magaalaa Sbbataa 2. Magaalaa sabbataan ala	
A02	Umurii		
A03	Amantii	1. Ortodoksii 2. Muusilima 3. Piroteestaantii 4. Kaatoolikii 5. Kanneen biroo	
A04	Haala gaa`ilaa	1. Kan hin heerumne 2. Kan heerumte 3. Kan hiikte 4. Kan abbaan manaa irraa du`e	
A05	Sadarkaa barnootaa	1. Kan hin baranne 2. Barreessuu fi dubbisuu kan dandeessu 3. Kutaa 1-6 4. Kutaa 7-12 5. Kolleejjii fi sanaa ol	
A06	Sabummaa	1. Oromoo 2. Amaara 3. Tigree 4. Kanneen biroo	
A07	Haala hojii	1. Daldaltuu 2. Hojjettuu mootummaa 3. Barattuu 4. Hojjetttuu guyyaaa 5. Kanneen biroo	
A08	Haala hojii abbaa manaa ishee	1. Daldalaa 2. Hojjetaa mootummaa 3. Barataa 4. Hojjetaa guyyaaa 5. Kanneen biroo	
A09	Sadarkaa barnootaa abbaa manaa ishee	1. Kan hin baranne 2. Barreessuu fi dubbisuu kan danda`u 3. Kutaa 1-6	

		4. Kutaa 7-12 5. Kolleejjii fi sanaa ol	
A010	Giddu galeessa galii ji`a qarshiin	1. Qarshii 150 gadi 2. 150 – 350 3. 351 – 750 4. 751 – 1500 5. 1500 ol 6. Galii ji`aa hin qabu	
A011	Dhaabbata fayyaa kana dhufuuf geejjibaa kam fayyadamtan?	1. Konkolaataa dhuunfaa 2. Geejjiba uummataa 3. Miilla /luka	
A012	Mana keessanii hanga dhaabbata fayyaa kanaatti dhufuuf yeroo ammamii isinitti fudhate?	1. Daqiiqaa 15 gadi 2. Daqiiqaa 15-30 3. Daqiiqaa 30- sa`aatii 1 4. Sa`aatii 1 oli	
A013	Kunuunsa(care) keessan gara fuulduraa itti fufuuf Dhaabbanni fayyaa kun isinitti tolaa/tolee?	Eeyyee <input type="checkbox"/> Lakki <input type="checkbox"/>	
A014	Ji`a ulfaa isheen keessa jirtu		
	Bay`ina ulfaa hanga har`atti ture		
	Baayina daa`immanii amma qabdu		
A015	Har`a gorsaa kee waliin waa`eee armaan gadii kana dubbattee :	Eeyyee	Lakkii
	Qorannoo HIV		
	Bu`aa qorannoo fudhachuu		
	Waa`ee qorannoo HIV yeroo darbe keessa taasifamee		
	Dhimma biroo(haa ibsamu)		
Gaaffilee beekkumsaa fi hubannoo			
A016	HIV`n haadha irraa gara mucaatti darbuu ni danda`a	Eeyyee <input type="checkbox"/> Lakki <input type="checkbox"/> Hin beeku <input type="checkbox"/>	
A017	HIV`n ` haadha irraa gara mucaatti yoom akka darbu	Eeyyee	Lakki
	Yeroo ulfaa		
	Yeroo da`uumsaa		
	Yeroo harma hoosisuu		
A018	Akkaataa HIV haadha irraa gara mucaa isheetti darbu ittisuun danda`amu	Eeyyee	Lakki
	Qoricha ART fudhachuun		
	Harma hoosisuu dhiisuu		
	Garaa baqaqsanii da`uudhan (CS delivery)		
A019	Waa`ee armaan gadii kana gorsaa kee waliin mari`attee?	Eeyyee	Lakki

	HIV/AIDS			
	Haala soorama mucaa ishee			
	MTCT/PMTCT			
A020	Abbaa manaa kee isa ammaa waliin waa'ee hordoffii da'uumsa duraa fi qorannoo HIV mar'attee beektaa?	Eeyyee Lakki Amma abbaa manaa hin qabu	→ A021	
A021	Ilaalchi abbaan manaa kee ammaa fayyadama Hordoffii da'uumsa duraa fi qoratamuu HIV` f qabu gaaridhaa?	Eeyyee <input type="checkbox"/> Lakki <input type="checkbox"/>		
A022	Yeroo Ulfa ammaa kana HIV qoratamtee?	Eeyyee <input type="checkbox"/> Lakkii <input type="checkbox"/>	→ A023 → A024	
A023	Yoo 'Eeyee' ta'e bu'aan qorannoo keetii maali?	Poozatiivii <input type="checkbox"/> Negaatiivii <input type="checkbox"/>	→ A025	
A024	Deebiin gaaffii keessan A022 lakki yoo ta'e Sababni HIV qoratamuu isin dhoowwu maali?	1. Sodaa abbaa manaa isaanii 2. Soda loogii fi qoollifannaa 3. Sodaa bu'aan qorannoo positive ta'uu 4. Yeroo ulfa isa kana duraa irratti qoratameera 5. Fedhii fi xiinsammuun qophii ta'uu dhabuu 6. Beekkumsaa fi hubannoo dhabuu 7. Gorsaan dhabamuu 8. Ilaalcha amantii 9. Deebii kennuu hin barbaadu 10. Kan biraa(Ibsi)		
A025	A025.....qoricha fudhattanii?	Eeyyee <input type="checkbox"/> Lakki <input type="checkbox"/>	→ A026	
A026	Yoo qoricha hin fudhanne ta'e sababni keessan maali?			
A027	Abbaan manaa kee inni yreoo ulfaa kee isa ammaa kana HIV qoratamee jira?	Eeyyee <input type="checkbox"/> Lakki <input type="checkbox"/>		
A028	Yoo lakki ta'e sababni inni qoratamuu dhiiseef maalii	1. sodaa Haadha manaa 2. soda loogii fi qoollifannaa 3. Sodaa pozativa ta'uu 4. Yeroo dhabuun 5. Amanamummaa dhaaf 6. Hubannoo fi beekkumsa dhabuun 7. Magaalaa Sabbataan ala waan jiraatuuf yk biyya keessa waan hin jirreef		

		8. Qoratamuuf karoora qaba 9. Fedhii /eeyyamamaa waan hin taaneef 10. Kan biroo(ibsi)_____	
A029	Kilinika hordoffii da`uumsa duraa kana maaliif dhufte?	1. Tajaajila ANC fudhachuuf qofa 2. HIV qoratamuuf 3. Mucaan koo HIV akka hin qabamneef Yaalamuuf	
A030	Gorsaa kee kilinika kanaa waliin yeroo meeqa wal argitee jirta?	_____yeroo(Visits)	
A031	Tajaajila har`a argattetti gammaddeettaa?	Eeyyee <input type="checkbox"/> Lakki <input type="checkbox"/>	
A032	Jalqaba akkamitti gara buufata fayyaa dhufte?	1. Olergamee(referral) 2. Akkan dhufu natti himamee (fkn. 3. Hiriyootan /maatii dhan 4. Ofumaanan dhufe 5. Kan biraa(ibsi)_____	
A033	Har`a Yeroo hangam fixxan:(daqiiqa dhan):		
	1. Gorsaa keessan eeguuf	Daqiiqaa _____	
	2. Erga seentanii gorsaa keessan waliin	Daqiiqaa _____	
A034	Yeroon isin fixxan akkam ture	Bay`ee guddaa <input type="checkbox"/> Ga`aa dha(gaariidha) <input type="checkbox"/> Bay`ee xiqqoodha <input type="checkbox"/>	
Gaaffilee itti quufinsa			
A035	Haala ga`uumsa teeknika gorsaa keessanitti itti quuftaniirtuu?	Eeyyee <input type="checkbox"/> Lakki <input type="checkbox"/>	
A036	Haalli itti gorsaan keessan itti yaalamtoota qabu isinitti toleeraa?	Eeyyee <input type="checkbox"/> Lakki <input type="checkbox"/>	
A037	Yeroo gorsaa turetti dhimmi dhuunfaa eegamaa tureeraa?(privacy during counseling)	Eeyyee <input type="checkbox"/> Lakki <input type="checkbox"/>	
A038	Gorsitootni garaagara akka jijjiiramn fedhii keessan tureeyyuu?(saala garaagaraa,umurii,kkf)	Eeyyee <input type="checkbox"/> Lakki <input type="checkbox"/>	
A039	Gorsituu gosa tokko qorannoo HIV duraa fi booda mariif argattaniirtuu?	Eeyyee <input type="checkbox"/> Lakki <input type="checkbox"/>	
A040	Yeroo marii HIV/AIDS waanti isin hin jaalanne tureeyyuu?	Eeyyee <input type="checkbox"/> Lakki <input type="checkbox"/>	
A041	Eeyyee yoo ta`e ,maal tureeyyuu?	_____	
A042	Yeroo ANC`f` dhufan Waa`een	Eeyyee <input type="checkbox"/>	→ A043

	HIV/AIDS akka hin kaane barbaadduu turee?	Lakki <input type="checkbox"/>	
A043	Eeyyee yoo ta` maaliif ?		
A044	Kilinika kanatti yaalamuuf deebitanii ni dhuftuu?	Eeyyee <input type="checkbox"/> Lakki <input type="checkbox"/>	→ A045 → A046
A045	Eeyyee yoo ta`e maaliif ?		
A046	Lakki yoo ta`e maaliif ?		
A047	Isin osoo tajaajila kanaaf as hin dhufin dura nama akka keessanii osoo argitanii gara tajaajila kanaatti akka dhufu ni gorsituu/itti himtuu?	Eeyyee <input type="checkbox"/> Lakki <input type="checkbox"/>	→ A048
A048	Yoo lakki ta` maaliif ?		
A049	Tajaajila PMTCT kana namootni biraa akka fudhatanuuf gorsitanii /itti himtanii beektuu?	Eeyyee <input type="checkbox"/> Lakki <input type="checkbox"/>	
A050	Mucaaa keessan kan ammaa eessatti da`uu barbaaddu?	1. Dhaabbilee fayyaa tti 2. Mana tti	
Gaaffilee ilaalchaa			
A051	Tajaajilli PMTCT haadholii ulfaa fi mucaa isaanii baay`ee barbaachisaadhaa	1. Bay`ee itti walii gala 2. Ittin walii gala 3. Bilisa/walaba 4. Itti walii hin galu 5. Bay`ee itti walii hin galu	
A052	Tajaajilli PMTCT dhibee fi du`a haadholii akkasumas daa`immanii hir`isuuf bay`ee barbaachisaadha	1. Bay`ee itti walii gala 2. Ittin walii gala 3. Bilisa/walaba 4. Itti walii hin galu 5. Bay`ee itti walii hin galu	
A053	Haadholiin ulfaa qorannoo HIV gaggeessuu qabu	1. Bay`ee itti walii gala 2. Ittin walii gala 3. Bilisa/walaba 4. Itti walii hin galu 5. Bay`ee itti walii hin galu	
A054	Qorichi yeroo ulfaa HIV akka hin darbineef haadhaaf kennamu hubaatii/miidhaa hin qabu	1. Bay`ee itti walii gala 2. Ittin walii gala 3. Bilisa/walaba 4. Itti walii hin galu 5. Bay`ee itti walii hin galu	
A055	Qorichi yeroo ulfaa HIV akka hin darbineef haadhaaf kennamu bu`a qabeessa(effectiveness)	1. Bay`ee itti walii gala 2. Ittin walii gala 3. Bilisa/walaba 4. Itti walii hin galu 5. Bay`ee itti walii hin galu	

WAANTOTA MAGAALAA SABBATAA KEESSATTI TAJAAJILA ITTISA DHIBE HIV HAADHA IRRAA GARA MUCAATTI AKKA HIN DARBINE DANQAN, 2007

Gaafannoo afaanii gadi fageenyaan

II. Foormii walii galtee

Hallo! Maqaan koo Hayiluu Margaa n jedhama. Ani kanan dhufe Yuunvarsitiitii Jimmaa Kolleejjii Saayinsii Fayyaa Muummee barnoota Ippidimoolojii irraayyi. Kanan dhufeefis Magaalaa Sabbataa keessatti wantoota tajaajilli HIV haadha irraa gara ilmootti akka hin darbineeef kennamu danqan irratti ragaalee adda addaa funaanuufi dha. Sababni qorannoo kanaas wantoota tajaajila PMTCT danqan/gufachiisan ykn sababa ta'an hubachuufi dha. Qaamolee dhimmi isaa ilaallatu hundumaa dhaabbata fayyaa irraa haasofsiisaa jirra.

Gaafannoo kana/marii kana irratti hirmaachuun fedhii kee irratti hundaa'a; yeroo kamittuu maricha addaan kutuu ni dandeessa. Hirmaannaa keessan qorannoo kanaaf taasiftaniif isin galateeffanna. Dhimmi dhuunfaa keessanii/eenyummaa keessanii hin galmeeffamu/hin waraabamu. ragaaleen isin nuuf kennitan kamiyyuu sababa qorannoof qofa kan olluu fi ragaaleen kunis kan qabamu garee qorattootaa qofaan akka ta'e isiniif mirkaneessuu barbaanna. Yeroo raga funaannu waanta hunda barreessuun waan ulfaatuuf marii keenya Teeppi dhaan sagalee isaa waraabna.

Qorannoo kana keessatti hirmaachuuf eeyyamamoodhaa? _____ (Eeyyee/Lakki). Yoo Eeyye jettan itti fufaa

WAANTOTA MAGAALAA SABBATAA KEESSATTI TAJAJILA ITTISA DHIBE HIV HAADHA IRRAA GARA MUCAATTI AKKA HIN DARBINE DANQAN ,2007 ALH

Gaafannoo afaanii gadi fageenyaan

Raga walii gala waa`ee deebii kennaa

Maqaa Buufata Fayyaa _____

Deebi kennaa	Umurii (Waggaadhaan)	Saala	Ogummaa	Gita hojii

Gaaffilee agarsiisfota/guide questions/

1. Wanttota tajaajilli fayyaa haadholee akka hin kennamne danqan akkamitti akka hubatte/ttu natti himuu dandeessaa?
2. Wantootni raawwiin tajaajila ittisa HIV haadha irraa gara mucaatti akka hin darbineeef danqan/gufuu ta`an akka Magaalaa Sabbataatti akkamitti ibsamu?
 - ka`uumsa danqitoota kanaa(determinants of the barriers)
 - Jijjirama yeroo gara yerootti jiru
 - Tarkaanfii furmaataa danqitoota/gufuu kana furuuf fudhataman
3. Naannoo keessanitti gufuulee/danqitoota gurguddoo tajaajilli PMTCT akka hin kennamne taasisan natti himuu dandeessaa?
 - Fayydamtootni fudhachuu diduu
 - Tajaajila kennitootni/ogeessotni dhabamuu
 - Ga`uumsa dhabina ogeessitoota tajaajila kennanii
 - Tajajilli dhabamuu, meeshaaleen dhabamuu fi dhiyeessiin dhabamuu
 - Supervision dhabamuu
 - Kanneen biroo
4. Sadarkaan tajaajila PMTCT hawaasaa keessan keessatti maal fakkaata?
 - a. Deesiftoota mala aadaa biratti (TTBA)
 - b. Raayyaa misooma fayyaa biratti (HDA)
5. Hojjeetoota Extension fayyaa Magaalaa tiin jijjiiramni dhufe jira?
 - PMTCT akka fudhatamuu fi kenninsi tajaajilichaa /service utilization
6. Danqitoota/gufuu tajaajilli PMTCT akka hin fudhatamne taasisan akkamitti hir`isuun ykn dhorkuun danda`ama?
 - Labsuu dhaan/advocacy
 - Leenjii fi superviziniiti itti fufiinsa qabu tajaajiltootaaf kennuun
 - Waantota barbaachisan guutuu taasisun fi dhiyeessii meeshaalee barbaachisanii
 - Kanneen biroo.....
7. Danqitoota /gufuuwwan tajaajila PMTCT walqabatan kana hir`isuuf eenyutu itti gaafatamummaa qaba jettanii yaaddu? _____

Declaration

I, the undersigned, declare that this research thesis is my original work and has not been presented for a degree in this or any other university, and all sources of materials used for this thesis have been fully acknowledged.

Name of the student: **HAILU MERGA ETEA**

Date **June 17, 2015** Signature _____

Place: **JIMMA UNIVERSITY**

Date of Submission **JUNE 17, 2015**

Approval of the first advisor

This Thesis work has been submitted with my approval as the University advisor

Name of the first advisor: **PROFESSOR KIFLE WOLDEMICHAEL**

Date. **June 17, 2015** Signature _____

Approval of the second advisor

This Thesis work has been submitted with my approval as the University advisor

Name of the 2nd advisor: **MR. LAMESSA DUBE (MPHE)**

Date. **June 17, 2015** Signature _____