ADDIS ABABA UNIVERSITY

FACULTY OF MEDICINE

SCHOOL OF PUBLIC HEALTH

ASSESSMENT OF OVERALL QUALITY OF PREVENTION OF MOTHER-TO-CHILD TRANSMISSION OF HIV SERVICE IN ADAMA TOWN, OROMIA REGION

BY ANTENEH ASSEFA (B.Sc)

A THESIS SUBMITED TO THE SCHOOL OF GRADUATE STUDIES ADDIS ABABA UNIVERSITY IN PARTIAL FULLFILLMENT OF THE REQUIREMENT FOR MASTER OF PUBLIC HEALTH

JULY 2009

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V. ACRONYMS

AAU	Addis Ababa University
AIDS	Acquired Immuno Deficiency Syndrome
ART	Antiretroviral Treatment
ARV	Antiretro Viral
BPR	Business Process Re-engineering
CQI	Continuous Quality Improvement
DNA	Deoxyribonucleic Acid
FGD	Focus Group Discussion
FHI	Family Health International
FMOH	Federal Ministry of Health
HCT	HIV Counseling and testing
HEI	HIV Exposed Infants
HIV	Human Immunodeficiency Virus
IEC	Information, education, and communication
MTCT	Mother to Child Transmission
NGO	Non Governmental Organization
OI	Opportunistic Infections
PCR	Polymerase Chain Reaction
PICT	Provider Initiated Counseling and Testing
PMTCT	Prevention of Mother-to-Child Transmission
RH	Reproductive Health
SPSS	Statistical Package for Social Sciences
STI	Sexually Transmitted Infections
TB	Tuberculosis
TQM	Total Quality Management
UNAIDS	Joint United Nations Program on HIV/AIDS
UNICEF	United Nation's Children Fund
VCT	Voluntary Counseling and Testing
WHO	World Health Organization

VI. ABSTRACT

Background: Sub-Saharan Africa in which Ethiopia is a part remains the most seriously affected region with AIDS in the year 2007. More than 60% of all new HIV infections are occurring in women, infants, and young children in this region. In 2005 alone, an estimated 540,000 children were newly infected with HIV, with approximately 90% of these infections occurring in this region.

Objective: To assess quality of PMTCT services and client satisfaction in private and public health facilities in Adama city, Oromia Region.

Methodology: A facility based cross-sectional study which involved quantitative and qualitative approach was conducted from September 2008 to June 2009. It involved 423 pregnant women and 31 health providers.

Results: From all pregnant women interviewed, 74.7% of them were found to be fully satisfied with the PMTCT service they received. Only 39% of the clients understood the counseling on MTCT and PMTCT. Not more than 90% of the pregnant women were counseled and accepted HIV testing and partners of 6.34% of the pregnant women were tested for HIV. The average duration of stay of clients with their health care provider was 12.8 minutes where the standard is 15 minutes. The average clients' waiting time was 41.5 minutes and 21.5 minutes in private health facilities and governmental health facilities respectively. From women of reproductive age group who were infected with the virus, 18% of them were counseled on family planning and started to use family planning. About 97% of the HEIs had received ARV prophylaxis. Cotrimoxazole prophylaxis was started at two months of age for 87.4% of the HEIs. More than half (60%) of the pregnant women came to the center they visited after being recommended to come by their friends or partners. Clients gave more weight to the ethical approach of providers to express their degree of satisfaction. Only two third of the health providers who are directly involved in PMTCT services received training on VCT for PMTCT. From the providers' side the most eminent problems were lack of training to update

themselves with current knowledge/skills, lack of feedback on job performance and lack of incentive for the additional burden added to them. The national PMTCT guideline was available and in use in only two among the eight health facilities assessed.

Conclusion: About two third (74.7%) of the clients were fully satisfied with the PMTCT service they received. Little more than half (52%) of pregnant women were counseled on MTCT and PMTCT. Less stay of health providers with the clients, long waiting time of clients, unavailability of advanced medical equipments and laboratory tests, lack of conformation to the national PMTCT guideline, and poor infrastructure were the most significant factors which compromised the quality of PMTCT services. Lack of family planning service provision together with HIV/AIDS services and lack of male involvement in PMTCT services were also among the factors which compromised the achievement of the PMTCT program.

Recommendation: Offering counseling on MTCT and PMTCT to all pregnant women, to deliver quality and comprehensive PMTCT interventions by reducing clients' waiting time as much as possible, enabling women to communicate with their partners about HIV testing, offering strong supportive supervision to health facilities and capacity building, and creating a strong link between HIV/AIDS and reproductive health services are crucial to improve the quality of PMTCT services.

1. INTRODUCTION

1.1 Background

Growing demand for health care, rising costs, constrained resources, and evidence of variations in clinical practice have increased interest in measuring and improving the quality of health care in many countries of the world [1].

As part of the health care system, reproductive health services include: prevention and treatment of HIV/AIDS; antenatal care; and safe delivery and postpartum care [2].

As PMTCT is a part of HIV/AIDS services, developing and implementing a PMTCT program complete with strategies for ARV prophylaxis, safer childbirth, and safer infant feeding practices is a complex process and should be given an effort [3]. Ethiopia has adopted the first PMTCT guideline on November 2001. During this era, the PMTCT service was not integrated with maternal and child health services. The current PMTCT guideline which was reformulated at July 2007 is based on the "opt-out" approach. The major barriers of PMTCT services were: home delivery, lack of access to health services and lack of quality health services [4].

Health care quality is defined as: "the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge" (Institute of Medicine, 1990:21). [4] The quality of health services has a multidimensional concept. Avedis Donabedian (1966; 1980) described quality as including: structure, process, and outcomes [5].

Setting up VCT and ensuring a quality that will create demand is thus a considerable challenge. Building in self-assessments, monitoring and regular evaluation is an important tool to enhance the quality of VCT [6].

1.2. Statement of the Problem

Annually an estimated 2.2 million HIV-infected pregnant women give birth, with only 10% currently having access to PMTCT interventions [7]. As to the WHO/UNAIDS

AIDS epidemic report of December 2007, Sub-Saharan Africa remains the most seriously affected region with AIDS, more than 60% of all new HIV infections are occurring in women, infants, and young children [8]. In 2005 alone, an estimated 540,000 children were newly infected with HIV, with approximately 90% of these infections occurring in this region [9].

In Ethiopia, the number of new HIV infection in 2007 was 125,528 of which 11.27% occurred in children and among 127,544 pregnant women tested for HIV; 6,655 (5.22 %) of them tested positive for HIV [3, 10].

In the absence of any intervention, the estimated risk of a baby acquiring the virus from an infected mother ranges from 15% to 25% in industrialized countries, and 25% to 35% in developing countries. In addition the estimated HIV transmission rate and time of transmission is estimated to be 5% to 10% during pregnancy, 10% to 15% during labor and delivery, and 5% to 20% during breast feeding. The risk ranges from 15% to 25%, 20 % to 35%, and 30 % to 45 % for overall without breastfeeding, overall with breast feeding to six months, and overall with breast feeding to 18 to 24 months respectively [11, 12, 13, 14, 15].

Less than 10% of pregnant women living with HIV (which is very low coverage) receive antiretroviral prophylaxis globally [16].

Identifying women in need of PMTCT services remains a challenge. In countries with generalized epidemics, the rapid expansion of provider-initiated HIV testing and counselling in maternal, newborn and child health (MNCH) settings and particularly in antenatal care setups and labour wards has been an effective way to increase uptake of PMTCT services [17].

A base line PMTCT survey in Ethiopia showed that, there is a major gap in the quality of antenatal and postnatal care, particularly with respect to counseling and in the provision of preventive therapies. At ANC, 33% of women received counseling on the benefits of exclusive breastfeeding, 30% received counseling on infant feeding options, 25% on HIV and breastfeeding, and 22% received an infant feeding demonstration [18].

1.3. Significance of the study

The study focused on the assessment of quality of services to carry out the four prongs national PMTCT strategy. The prongs are: primary prevention of HIV, prevention of unintended pregnancies among HIV infected women, prevention of HIV transmission from infected women to their infants, and treatment, care and support of HIV infected women, their infants and their families.

The outputs of this study serve to show status of the quality of PMTCT service and fill the research gaps towards HIV/AIDS services in the country since it can be utilized as background information. The output of the study will also serve for policy makers and program officers about what is doing well and what is not so as to enable them remodel the program.

2. LITERATURE REVIEW

There is consensus that people consider at least three dimensions of quality to be important: the appropriateness of care (i.e., patients should receive a procedure when it benefits them and not get it if it does not), the excellence of care (when something is done to patients, it should be done in a manner that maximizes the benefit-to-risk ratio), and the humaneness of care (including being consistent with societal norms) [20, 21].

Much of the practice-oriented literature focuses on matters internal to health-care organizations and links conceptually to Total Quality Management (TQM) and Continuous Quality Improvement (CQI) approaches [19].

Examining the quality of care from patient's perspective can help reveal important information about the quality of care afforded to patients. Their experience often contributes towards making the health service more responsive to clients – an area which currently being emphasized by WHO [22]. Assessing health care should involve structure, process and outcome (Figure one).

Structure refers to the organizational factors that define the health system under which the care is provided and it has two domains, physical characteristics and staff characteristics[1].

Processes of care involve interactions between users and the health care structure. There are two key processes of care: technical interventions and interpersonal interaction. Technical care refers to application of clinical medicine to a personal health problem and is based upon a theory of function which can be evaluated for efficacy and generally standardized. Interpersonal care describes the interaction of health professionals and users or their carers which includes the management of social and psychological interaction. Outcomes are consequences of care [1]. Specifically; input prices, demographic factors and government policy variables may all have a significant impact on the quality of care [24].

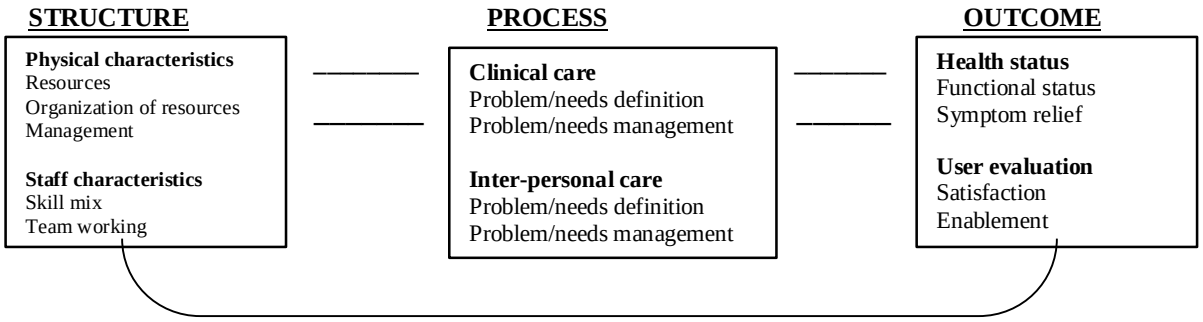


Fig. 1 A systems based model for assessing care (1)

HIV/AIDS and RH services need a strong integration to make them effective. Integration of services is a concept that needs reconstruction and program linkage and integration requires political support and leadership. The entry points for relating two service programs are many, varying by level, by actors in the system, by health needs, by client attributes and by available resources [12].

The study on integrating family planning services in VCT and PMTCT sites in Amhara region, Ethiopia revealed that integration of family planning services into VCT/PMTCT settings can reduce missed opportunities and increase contraceptive intake [12]. A study in Rwanda also revealed that family planning can successfully be integrated into PMTCT-VCT programs that were offered on-site family planning method [12].

Antenatal care and delivery services are the entry point for high-quality PMTCT. High-quality antenatal care and delivery care services are therefore likely to lead to high-quality PMTCT services [16].

In Ethiopia, there is urgent need for rapid scale up of HCT services in general, with particular emphasis on accelerating access to PMTCT interventions and ARV treatment [25].

As part and parcel of reducing the HIV epidemic in Ethiopia, the set strategy is optimizing the synergies between RH and HIV/AIDS service. Level of integration of PMTCT and VCT service to routine antenatal/delivery/postpartum care, family planning

service and STI clinics are the targets chosen. Despite ongoing service delivery efforts, the needs of women with HIV/AIDS including PMTCT, FP and post abortion care are not sufficiently met [2].

A cross sectional survey of men and women on ARV in Addis Ababa found that clients were more likely to want children if they were younger, married, had partners who desired children, and had no previous children [12].

A study carried out in Russia which involved 458 HIV+ women showed that many pregnant women did not know their HIV status prior to the current pregnancy. Sixty percent of HIV+ women who took their pregnancy to term reported learning of their HIV status during antenatal screening [26].

Increasing access to family planning with good quality of interpersonal care is cost-effective in decreasing HIV infection in infants. Communication for PMTCT needs to be based on a comprehensive, research-based planning methodology. PMTCT messages and materials tend to be more accepted, less threatening and less stigmatizing when they are integrated into existing information about antenatal care, maternal and child care, and family planning [28, 29]. Exclusive breastfeeding can serve as effective contraceptive method for the first six months after birth according to WHO's recommendations. Infant feeding practice should also be given a due attention in PMTCT activities.

Furthermore, UNAIDS and UNICEF recommend HIV-positive women either not breastfeed children altogether, or wean at 4-6 months, both of which increase likelihood of postpartum fertility by ending amenorrhea. Despite these recommendations, HIV-positive women in Sub-Saharan Africa have low family planning use resulting in many unwanted pregnancies [12]. Past studies also showed that the satisfaction of clients to health care services was very low in developing countries.

The overall satisfaction level of patients in Eastern Ethiopia is 54% which is very low as compared to other studies in developing countries (68% in rural Bangladesh and 74% in

Trinidad and Tobago). The study showed that short waiting time for registration and being seen by a health provider are associated with high client satisfaction. The level of satisfaction is also associated with payment status as paying patients are less satisfied than non-paying patients [22].

According to a study done in Harrar town, out of 587 respondents, 303 (51.6%) of them had good knowledge of MTCT. Concerning time of MTCT, transmission during time of delivery and breastfeeding were well known. But only 32.6% of the respondents knew transmission of HIV during pregnancy [27].

In the baseline PMTCT survey of Ethiopia, Knowledge of women around PMTCT was quite low, particularly with respect to modes of transmission and prevention of MTCT during pregnancy. Less than a fifth of women identified all three modes of transmission and almost a quarter of the women did not know any mode of transmission. Knowledge of prevention of MTCT during pregnancy and breastfeeding is low. Knowledge of appropriate infant feeding options shows higher knowledge about replacement feeding as the best way to prevent HIV transmission during the breastfeeding period of infancy [18].

UNAIDS adopted tools for the evaluation of VCT as part of a national programme. It includes monitoring and evaluation of VCT services associated with the prevention of mother-to-child transmission of HIV (MTCT) and tuberculosis preventive therapy (TBPT) [6].

As opposed to rapid widespread implementation of PMTCT seen from the mid-1990s in resource-rich settings, implementation in resource- limited international settings has been disappointingly slow. This is due to a variety of factors including weak and crumbling health care infrastructure in some settings, lack of integration of PMTCT programs into maternal and child health services, limited donor funding support, PMTCT drug and HIV test kit stockouts, the fact that many women in resource limited settings deliver at home or outside medical facilities in which PMTCT services are available [30].

Other challenges include lack of male involvement in HIV testing including couple testing, issues of disclosure by women of their HIV status that may prevent HIV-infected women from receiving appropriate antiretroviral interventions for both PMTCT and their own treatment [30]. There were initiatives to strengthen PMTCT program by providing reinforcing feedbacks acquired through research.

Identifying women in need of PMTCT services remains a challenge and is impeding many countries' ability to prevent HIV infection in infants.

Despite missed opportunities, progress was made in 2005 with regard to PMTCT and scale-up efforts have started to show an impact (Table 1). The proportion of HIV positive pregnant women receiving antiretroviral treatment for PMTCT increased from 7% in 2004 to 11% in 2005, a more than 50% increase [17].

	2004 (n=58 countries)	2005 (n=71 countries)
Estimated number of women giving birth	81.3 million	90.5 million
Estimated number of women accessing antenatal care	59.3 million (73%)	69.7 million (77%)
Pregnant women counselled on PMTCT	8.7 million (11%)	10.3 million (11%)
Pregnant women tested for HIV	8.2 million (10%)	9.2 million (10%)

Table 1: Number of pregnant women giving birth, receiving antenatal care, PMTCT counselling and HIV testing in Low and middle income countries 2004-2005.

Source: Reproductive health matters journal. Volume15 (30): 2007;Page 182

3. OBJECTIVE OF THE STUDY

3.1 General objective

- To assess overall quality of PMTCT service in private and public health institutions of Adama city, Oromia Region.

3.2 Specific objectives

- To assess knowledge of clients on MTCT, PMTCT and their satisfaction to the service they got.
- To assess providers knowledge and skills of PMTCT and their perception towards the quality of PMTCT service.
- To assess the quality of ANC, delivery, and post delivery linked PMTCT services.
- To assess the integration of HIV/AIDS services and reproductive health services with emphasis on PMTCT.
- To assess the infrastructure in which PMTCT service is provided.

4. METHODOLOGY

4.1. Study design

The study is a facility based cross sectional study which encompassed both quantitative and qualitative methods of exploration.

Quantitative methods

- Client exit interview which involved pregnant women who came for antenatal care service was performed. It was designed to assess clients' knowledge and their perception on the quality of care they got from the health institution and their level of satisfaction with special and due emphasis on PMTCT.
- Providers interview was also carried out to assess providers' knowledge about MTCT and PMTCT and the perception they have towards quality of the service
- Facility assessment checklist to assess the capacity of the health institution to provide PMTCT.
- Review of secondary data from the ANC PMTCT log book, ARV infant log, HEI follow up cards, ART follow up cards of women of reproductive age group.

Qualitative methods

- In-depth interview with one health professional who is directly involved with the provision of PMTCT.
- In-depth interview with Adama special zone PMTCT coordinator.
- Focus group discussion with clients (two focus group discussions; one with clients from public health institution and the other with clients from private health institution to see for possible differences in knowledge and satisfaction.

4.2. Study area

The study was carried out in Oromia Regional State, Adama city which the capital city of East Shoa zone. Adama is found 100 km far from Addis Ababa, the capital city of Ethiopia to the south. With in East Shoa zone there are 12 woredas and 3 special city administrations (Adama, Bishoftu, and Zeway) which are administered by the regional state.

The total population of the zone is estimated to be 2.3 million of which 1.8 million of the inhabitants are from the zone other than the three special city administrations. There are 8 hospitals (3 government hospitals, 3 private for profit hospital, and 2 government owned sugar factory hospitals), 14 health centers, 78 private for profit clinics, 44 government owned clinics, and 110 health posts.

The study involved both private and public health institutions in Adama city which provide PMTCT services. One government hospital (Adama Hospital), two private hospitals (Sr. Aklesia memorial hospital, Medhanealem hospital), two government health centers (Geda health center, Adama health center), one NGO health center (St. Francisco health center), and two private higher clinics (Kidus higher clinic, Misikir higher clinic) were included in the study.

4.3. Study period

The study was conducted from September 2008 to July 2009.

4.4. Source population

The source population of the study was:

- All pregnant mothers in Adama city during the study period
- All mothers who gave birth with in the past six weeks of the onset of the study.
- All women living with HIV/AIDS who are in the reproductive age group in Adama city during the study period.
- All health professionals PMTCT services in Adama city during the study period.

4.5. Study population

The study population included:

- Women who came for maternity services including antenatal care, delivery and postnatal care with in the gap of six weeks after delivery in all public and private health institutions included in the study and which provide PMTCT services.

- All PMTCT counselors and coordinators in the private and public health institutions giving the service in Adama zone during the study period regardless of their residency area.

4.6. Study units

- Pregnant women who came for antenatal care and delivery services and women receiving postnatal care service and those who are included in the sample regardless of their HIV sero status and their residency area.
- Women living with HIV/AIDS utilizing ART service who are in the reproductive age group and who are included in the sample regardless of their residency area.
- All PMTCT counselors and coordinators in the private and public health institutions included in the study and giving the service during the study period regardless of their residency area.

4.7. Exclusion criteria

4.7.1. Clients

- Seriously ill patients

4.7.2. Health professionals

- Newly recruited staffs with in the past six months

4.8. Size of study subjects (sample size)

4.8.1. Exit interview of clients who came for antenatal, delivery and postnatal care services

The sample size was calculated using single population proportion

$$n = \frac{Z_{(1-\acute{a}/2)} \times P(1-P)}{d^2}$$

Where: **n=** the maximum sample size

$Z_{(1-\acute{a}/2)}$ = by considering 95 %confidence level, á will be 0.5 & the value of Z will be 1.96

P= Proportion of health facilities providing quality PMTCT service = 0.5 (it is assumed that 50% of the institutions provide quality PMTCT service)

d= tolerable margin of sampling error = 0.05

Therefore; $\mathbf{n} = \frac{\mathbf{(1.96)^2 \times 0.5\ (1-\ 0.5)}}{\mathbf{(0.05)^2}}$

$n = \mathbf{384}$

Non-response rate which is estimated to be 10% of the respondents was added in the sample.

So, the final sample size for exit interview was: 384 + 0.1(384); which equals to 423.

The interview utilized a standardized questionnaire from UNAIDS best practice collection to assess client satisfaction.

4.8.2. Assessment of health professionals and counselors satisfaction

All health providers who were directly involved with the provision of PMTCT service were included. Thus, a total of 31 health providers were interviewed using a standardized questionnaire from FHI/UNAIDS best practices collection after some modifications were made.

4.9. Sample selection method

Sample selection of clients for exit interview was proportional to patient flow which was considered during the study period and included women who came for antenatal, delivery and postnatal services. The client flow of all institutions included in the study in the two weeks before the actual data collection period was taken to calculate the average number of pregnant women visiting the facility per day and the proportion is weighed based on it. The sampling method used was systematic random sampling by using clients' registration book as a sampling frame (every other client was included in the study).

4.10. Data collection

The data collection focused on all the three quality indicators according to the Donabedian model (structure, process and outcome indicators) and it had qualitative and quantitative parts. The data collection period was in the time gap March 2 - 25, 2009.

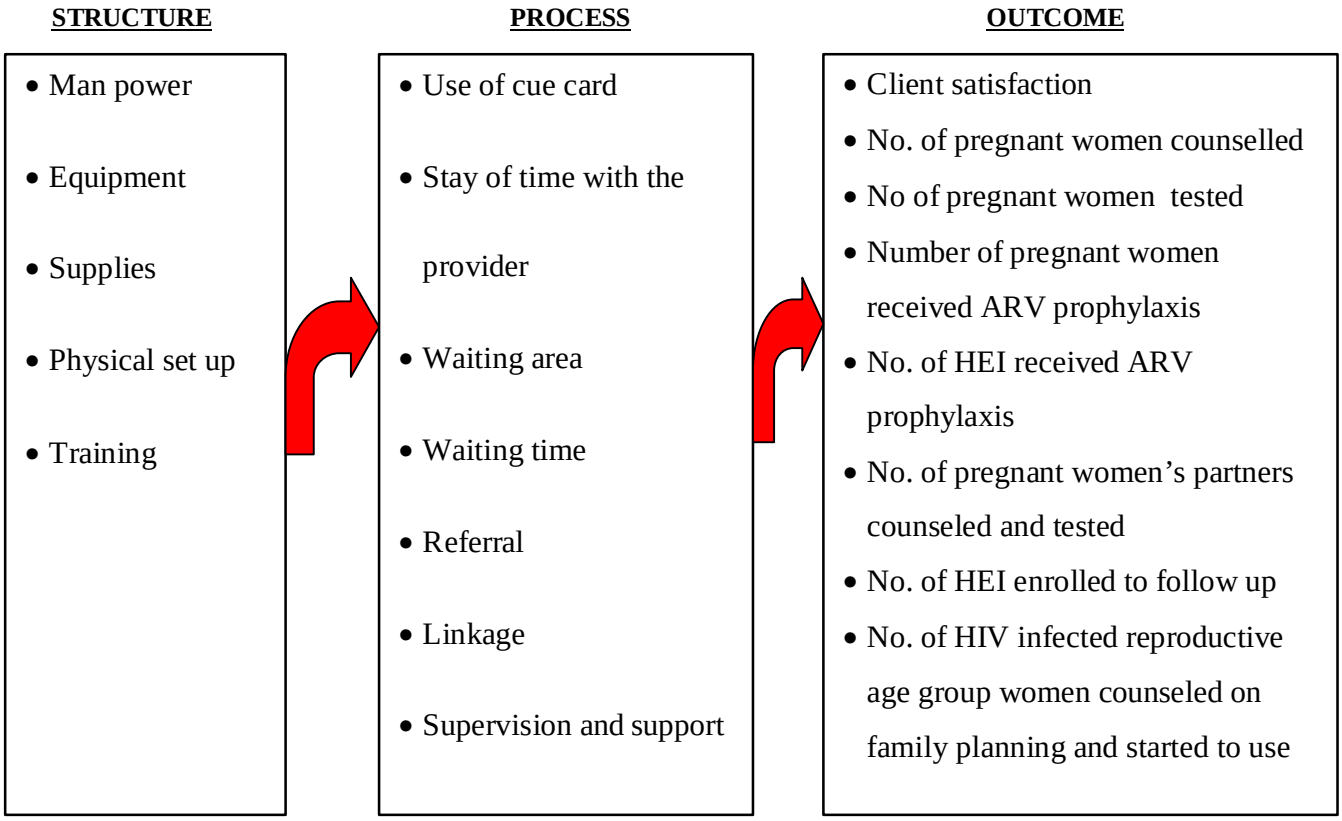


Figure 2: A systems based model as applied to PMTCT services

4.10.1. Quantitative part

- Interview of clients was performed using a structured questionnaire at the exit point of antenatal care to assess their knowledge of MTCT and PMTCT, and their satisfaction to the actual service they received.
- Secondarily, there was an interviewer filled questionnaire for health professionals to assess their perception about the quality of PMTCT service and their self expectation towards competency of service provision and knowledge of MTCT and PMTCT.

4.10.2. Qualitative part

Qualitative study methods were incorporated so as to complement the findings obtained from the quantitative study. The methods involved were:

- Focus group discussions with clients to assess their perception towards the quality of PMTCT services using a semi-structured questionnaire.
    - There were two FGD, one with clients from public facilities, and the other with clients from private facilities for which there were six and five participants respectively.
- Two key informant in-depth interviews; one with the PMTCT coordinator at zonal level and the other with health provider from Adama hospital with emphasis on: management of PMTCT service, integration with RH services and institutional preparedness to provide PMTCT services.
- Facility surveys of all institutions selected were also effected using a minimum requirement for PMTCT program package as per the national PMTCT guideline.

4.11. Data collectors

Data regarding the exit interview was collected by trained data collectors who are not health professionals but who are high school graduates to minimize the risk of professional bias; where as providers interview were handled by clinical nurse professionals. The FGD with clients were guided by the investigator and one BSc nurse professional at the selected health institution using a tape recorder. There was also an additional note taker.

Institutional observation for their capacity to provide PMTCT service was carried out by the investigator.

4.12. Data quality assurance

By using 5% of the total sample size calculated for all categories of interviewee, pretest was done in Bishoftu hospital and the questionnaire was checked for its clarity, understandability and simplicity in collecting for what it was aimed. After the pretest, the questionnaires were reformatted based on the inputs and comments generated. Then

duplication of the final questionnaires was done. The quality of the data collected was assured by checking all questionnaires at the evening of the date of collection by the principal investigator.

4.13. Data processing and analysis

Data was first coded and then cleaning and entry was carried out by the principal investigator using EPI INFO software version 3.5.1. Analysis was done using SPSS version 16 after the data is imported from the EPI INFO software.

4.14. Variables

4.14.1. Independent variables

- Sociodemographic characteristics: age, religion, marital status, level of education, etc of the clients
- Whether the client is paying or non-paying
- Clients' waiting time

4.14.2. Dependent variables

- Clients' satisfaction
- Health professionals' skill in interpersonal communication and service delivery
- Health professionals' perception towards their competency

4.15. Operational definition of terms

- ***Mother-to-child transmission***: transmission of an HIV virus from a mother to her child through breast feeding, during pregnancy, or during labor.
- ***Prevention of Mother-to-child transmission***: Prevention of transmission of an HIV virus from a mother to her child through breast feeding, during pregnancy, or during labor
- ***Exclusive breast feeding:*** infant feeding only breast milk till the age of six months with out any formula feeding and water

- ***Replacement feeding:*** infant feeding only infant formulas with no breast feeding
- ***Mixed feeding***: infant feeding both breast milk and other formula feeds or water
- ***DNA PCR:*** a test which detects the presence of HIV in the blood and is used for diagnosis in infants less than 18 months of age.
- ***HIV exposed infants:*** infants born to a HIV positive mother
- ***Client Satisfaction:*** degree of individual's happiness and comfortability with the service taken.

5. ETHICAL CONSIDERATION

The proposal was submitted to the Institutional Review Board (IRB) of the Faculty of Medicine, Addis Ababa University where it was ethically cleared. After the approval at the Faculty level, ethical clearance was obtained from Oromia Regional Health Bureau and permission was obtained from the institutions in which the study was carried out.

Clients were asked for informed consent after all the necessary information is presented to them for their willingness to participate in the study. Health professionals were also asked for their consent in written form.

6. DISSEMINATION OF THE FINDINGS

The result of the study was submitted to the School of Public Health, AAU, Ethiopian Public Health Association, Oromia Regional Health Bureau and Adama Special Zone Health Office to inform the output of the study. The output will have important contribution for the program improvement. There will be also presentation of the study to parties interested.

7. RESULT

7.1. Exit interview with antenatal care attendants

Socio-demographic characteristics

The exit interviews of clients at ANC service delivery outlet were carried to assess their degree of satisfaction. Eight health institutions were incorporated in the study (one government hospital, two governmental health centers, one non-governmental health center, two private hospital and two private higher clinics). The response rate of the study was 100%. The socio-demographic characteristics of the clients are described as follows.

Among a total of 423 pregnant mothers who were interviewed, 361 (85.3%) of them were mothers from Adama town and the rest 62 (14.7%) were from outside Adama town. More than forty one percent (41.4%) were in the age group 21-25 and the mean age and standard deviation of clients were 24.8 years and 4.9 years respectively. More than ninety percent (93.9%) of the respondents were married and 16 (3.8%), 6 (1.4 %) of them were single, and divorced respectively as shown in table 2.

As to religion of the respondents, more than half of them (59.6%) were Orthodox, 22.7% of them were Muslim and 15.8 % of them were Protestants. Regarding educational status of clients, 45 (10.6 %) of the respondents were at college and above levels, and 164 (38.8%) of them were in the range of grade 9-12. The ethnic origin of clients showed that 37.4% and 33.3% of them were Oromo and Amhara respectively. From the total respondents, 63.4% of them were housewives, followed by merchants and daily laborer which accounted for 9.5%, and 7.1% respectively.

Table 2: Socio-demographic features of women who came for ANC services; Adama, March 2009.

Variables with possible answers		*Frequency*	*Percentage*
Age in years	15-20	95	22.5%
	21-25	175	41.4%
	26-30	108	25.5%
	31-40	44	10.4%
	41 and above	1	0.2%
	Total	***423***	***100.0%***
Place of residence	Adama city	361	85.3%
	Out of Adama city	62	14.7%
	Total	***423***	***100.0%***
Religion	Orthodox	252	59.6%
	Muslim	96	22.7%
	Protestant	67	15.8%
	Catholic	5	1.2%
	Others	3	0.7%
	Total	***423***	***100.0%***
Marital status	Married	397	93.9%
	Single	16	3.8%
	Divorced	6	1.4%
	Widowed	2	0.5%
	Separated	2	0.5%
	Total	***423***	***100.0%***
Maximum educational status	Illiterate	60	14.2*%*
	Illiterate but able to write and read	9	2.1*%*
	Grade 1-4	101	23.9*%*
	Grade 5-8	44	10.4*%*
	Grade 9-12	164	38.8*%*
	College and above	45	10.6*%*
	Total	***423***	***100.0%***
Ethnic origin	Oromo	158	37.4*%*
	Amhara	141	33.3*%*
	Tigre	28	6.6*%*
	Gurage	75	17.7*%*
	Others	21	5.0*%*
	Total	***423***	***100.0%***
Occupational status	House wife	268	63.4*%*
	Merchant	40	9.5*%*
	Government employee	29	6.9*%*
	Student	23	5.4*%*
	Daily laborer	30	7.1*%*
	Other	33	7.8*%*
	Total	***423***	***100.0%***

From the total 423 ANC attendant mothers interviewed, 223 (52.7%) of them were in the third trimester of pregnancy while 161 (38.1%) and 39 (9.2%) of them were in the second and first trimester of pregnancy respectively. Primigravidas account for almost half of the ANC attendants, 208 (49.2%). The number of gravida two and gravida three mothers were 137 (32.4%), and 46 (10.9%) respectively.

During client's session with their ANC counselor in the date of interview, the counselor discussed about: having an HIV test with 209 (49.4%) of the clients, receiving test results with 160 (37.8%) of the clients, and issues arising from an HIV test taken some time ago with 186 (44%) of the clients as shown in table 3.

Table 3: Pregnant women's reason for coming to the ANC clinics, Topics about HIV discussed with ANC attendants, Pregnant women's number of ANC visits and trimester of pregnancy. Adama, March 2009.

	Frequency	***Percentage***
Pregnant women's reason for coming to the ANC center		
For antenatal care only	366	86.52 %
To test for HIV	6	1.42 %
To receive treatment to protect her baby from HIV	4	0.95 %
For antenatal care and to test for HIV	45	10.63 %
For antenatal care, to test for HIV, To receive treatment to protect her baby from HIV	2	0.48 %
Total	***423***	***100 %***
Topics discussed about HIV with mothers		
Having an HIV test	209	49.4 %
Receiving test results	160	37.8 %
Issues arising from an HIV test taken Some time ago	186	44.0 %
Other issues	1	0.2 %
Pregnant women's number of ANC visit		
First visit (New)	148	35 %
Two to three visits	196	46.4%
Four to five visits	65	15.3 %
Six visits and more	14	3.3 %
Total	***423***	***100 %***
Pregnant women's trimester of pregnancy		
First	39	9.2 %
Second	161	38.1 %
Third	223	52.7 %
Total	***423***	***100 %***

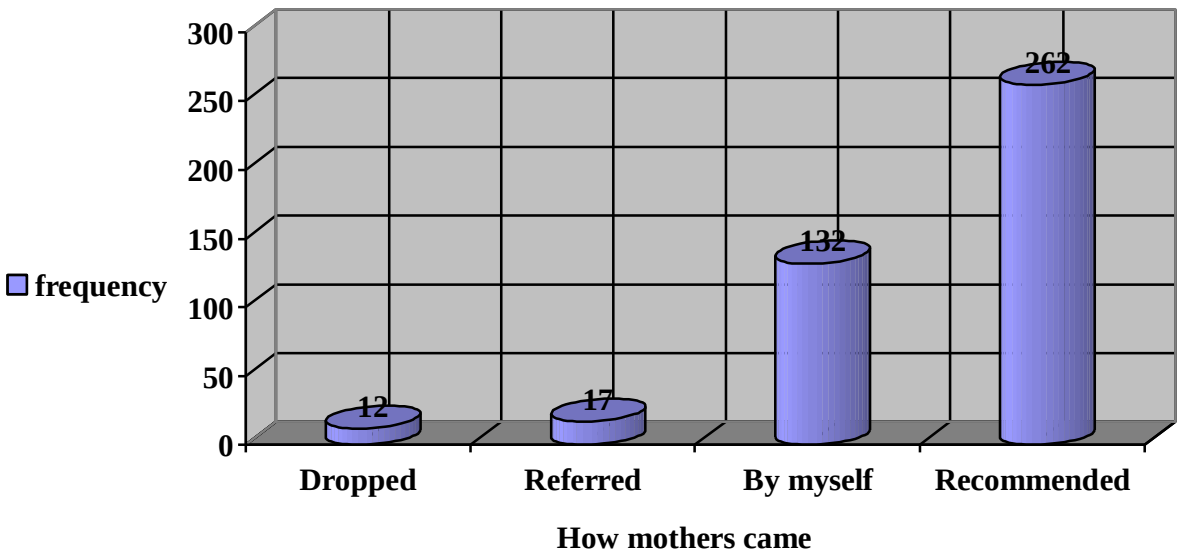
The data showed that majority (46.3%) of the pregnant women had two to three ANC visits at their respective ANC clinic. More than half (52.7%) of the pregnant women were in the third trimester of pregnancy. See table 3.

Among the total ANC attendants, more than half, 220 (52%) of the clients were counseled on MTCT and PMTCT while only 10 (2.4%) of them were counseled on infant feeding. Regarding understandability of the message conveyed during clients' counseling sessions, 165 (39%) of the clients were counseled well and understood the counseling on MTCT and PMTCT and have the knowledge on ways of MTCT of HIV and 73 (17.3%), 2 (0.5%) of the clients were counseled and understood the counseling on HIV/AIDS and infant feeding respectively. Assessment of the client's knowledge about MTCT by using client exit interview and an FGD showed that all of the pregnant women were knowledgeable about at least one way of MTCT.

But, by stratification of modes of MTCT, only 33.4% of the pregnant women were able to depict MTCT of the virus during pregnancy which is inline with the percentage of pregnant mothers who were counseled on MTCT and PMTCT by their counselor on the date of interview which is only 39%.

Concerning the client's reason for coming to the ANC service delivery sites; it was largely only for ANC follow-up which accounts for 86.5% of the total clients. The details of reason for coming are illustrated in table 3.

Figure 3: How the pregnant women came for their ANC for the first time to their respective health facility they visited. Adama, March 2009.



Clients were asked how they came first to the health institution they are attending their ANC and more than 60% of them were recommended to come by their friends or partners (figure 3). The tendency to recommend other pregnant mother to the service is about two times higher in those who came to their respective ANC clinic by recommendation than those who didn't come by recommendation (OR = 1.99, 95% CI: 1.31, 3.04). See table 4.

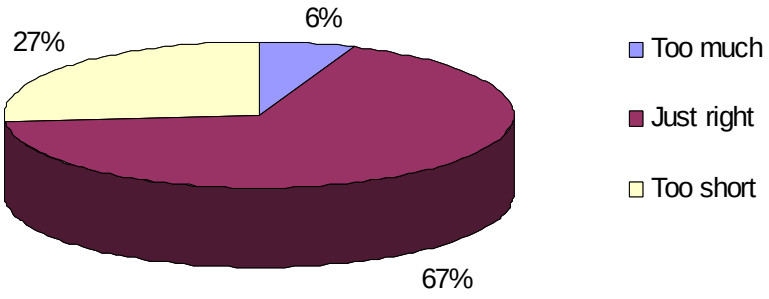
Table 4: Statistical Analysis table

		Recommended the service to others			*Test for Association*
		Yes	**No**	**Total**	
Recommended to come by others	**Yes**	142	120	**262**	***OR = 1.99*** 95% CI: 1.31, 3.04
	No	60	101	**161**	
	Total	**202**	**221**	**423**	
		Do you wish you had a different counselor?			
		Yes	**No**	**Total**	
Are you satisfied with the technical competence of the counselor?	**Yes**	65	341	**406**	***OR = 0.1*** 95% CI: 0.03, 0.32
	No	11	6	**17**	
	Total	**76**	**347**	**423**	
		Is there anything you did not like during the discussion about HIV/AIDS?			
		Yes	**No**	**Total**	
Not able to see the same counselor before and after an HIV test	**Yes**	25	253	**278**	***OR = 4.68*** 95% CI: 1.32, 19.8
	No	3	142	**145**	
	Total	**28**	**395**	**423**	
		Maintenance of privacy			
		Yes	**No**	**Total**	
Stay for more than 15 minutes with the counsellor	**Yes**	62	31	**93**	OR = 0.64 95% CI: 0.38, 1.09 No association
	No	250	80	**330**	
	Total	**312**	**111**	**423**	
		Appropriateness of stay			
		Yes	**No**	**Total**	
Stay for more than 15 minutes with the counsellor	**Yes**	155	80	**235**	OR = 0.86 95% CI: 0.56, 1.33 No association
	No	130	58	**188**	
	Total	**285**	**138**	**423**	

Bivariate analysis of factors influencing quality of PMTCT. Adama, March 2009.

The average waiting time of clients to get their health care provider was 24.5 minutes. When the waiting time was stratified by ownership of the health institution, in governmental health institutions the waiting time was 21.5 minutes where as in private health institutions the waiting time was 41.5 minutes. In the non-governmental health center the average waiting time was found to be 18.9 minutes. The average duration of stay of clients with their health care provider was 12.8 minutes. When stratified by ownership of the health institution, the average duration of stay was 12.5 minutes, 13.7 minutes, and 12.8 minutes in governmental, private, and non-governmental health institutions respectively. Clients were asked for the duration of stay they had with their health care provider and more than 67% of the clients said that the amount of time they spent was "just right" while more than quarter of them said it was too short. From the FGD with clients from private health institutions, one of the discussants said, *"You pay very high to get more facilitated and high quality care by specialized personnel, but the amount of time you are asked to wait for the physician is much more to the level you can't tolerate. So, if this is the case, why I should not follow my pregnancy status at public health institutions. I came at 8:30 AM and I'm asked to wait till 11:30 AM".*

Figure 4: Clients' judgment of the length of time they had with their counselor. Adama, March 2009.



Duration of clients in the session with their counsellor stratified by more than 15 minutes and les than or equal to 15 minutes showed no statistically significant association with maintenance of privacy during counseling (OR = 0.64 and 95% CI: 0.38, 1.09). Duration of stay of clients in the session with their counsellor stratified by more than 15 minutes and les than or equal to 15 minutes also showed no significant association with appropriateness of the length of stay according to clients' own view (OR = 0.86 and 95% CI: 0.56, 1.33). See table 4.

Clients' degree of satisfaction was asked using different questions such as satisfaction with the technical competence of the counselor, comfortability with the counselors handling of the client, the general setup in which they received the counseling session, and their preference of counselor by age or sex which is represented in detail in table 5.

Table 5: Subjective response of clients towards satisfaction based questions. Adama, March 2009.

SNo.	*Subjective questions*	*Possible answers*	*Frequency (percentage)*
1	Are you happy with the session you had today?	Yes	406 (96.0%)
		No	17 (4.0%)
		Total	***423 (100%)***
2	Are you satisfied with the technical competence of the counselor?	Yes	406 (96.0%)
		No	17 (4.0%)
		Total	***423 (100%)***
3	Did you feel comfortable with your counselors handling of the client?	Yes	395 (93.4%)
		No	28 (6.6%)
		Total	***423 (100%)***
4	Was there enough privacy during your counseling?	Yes	312 (73.8%)
		No	111 (26.2%)
		Total	***423 (100%)***
5	Do you wish you had a different counsellor (different sex, older, younger)?	Yes	76 (18.0%)
		No	347 (82.0%)
		Total	***423 (100%)***
6	Were you able to see the same counselor for discussion both before and after the test?	Yes	278 (65.7%)
		No	145 (34.3%)
		Total	***423 (100%)***
7	Is there anything you did not like during the discussion about HIV/AIDS?	Yes	28 (6.6%)
		No	395 (93.4%)
		Total	***423 (100%)***
8	Would you have preferred that HIV/AIDS not be discussed during your antenatal visit?	Yes	20 (4.7%)
		No	403 (95.3%)
		Total	***423 (100%)***

Scaling was done using the eight satisfaction related questions which are shown in table 5. The rating was performed using the "count values with in cases" in the transform menu of the SPSS software. Then, the cutoff point to say the client is "fully satisfied" was done. Thus, a client who answered "yes" for at least seven of the satisfaction related questions was fully satisfied. The total percentage of clients who were satisfied fully in their stay at the day of their ANC visit was 74.7%.

Table 6: Subjective response with an answer "YES" of the clients towards the eight satisfaction based questions shown in table 5. March 2009, Adama

Clients who answered "yes" for _____ of the eight questions	***Frequency***	***Percent***	***Cumulative Percent***
Two	2	0.2 %	0.2 %
Three	4	0.9 %	1.1 %
Four	10	2.4 %	3.5 %
Five	22	5.2 %	8.7 %
Six	70	16.5 %	25.2 %
Seven	170	40.2 %	65.4 %
Eight	146	34.5 %	100 %
Total	***423***	***100*** %	

Association was sought for relation between being satisfied with the technical competence of the counselor and need for other counsellor. Thus, being satisfied by the technical competence of the counselor is strongly associated with no need for other counselor with an OR 0.1, and 95% CI (0.03, 0.32) as shown in table 4. More than 65% of the ANC attendees were able to see the same counselor before and after an HIV test.

Table 4 revealed that pregnant mothers who were not able to see the same counselor before and after an HIV test were more subjected to dislike discussion about HIV/AIDS during their ANC visit (OR = 4.68, 95% CI 1.32, 19.8). Among the total respondents, 409 (96.7%) of the clients want to come again to the health institution they had visited on the date of interview for their ANC. On the other hand, 202 (47.8%) of the pregnant mothers have recommended the service to any one else.

The FGD with clients from public health institutions came up with the result that;

> *"government health institutions are public's properties. So that individuals can take the service they want in the sense of ownership. What is deficient in those places is lack of ethics and respect from the providers side for us most of the time. For this reason, private health institutions are preferred. You will pay, and you receive the care you want with respect. But, you are expected to pay unfair price and the price that you can't afford. So, my option is the government health institution".*

7.2 health care providers' interview

To assess the health providers' satisfaction and perception towards quality of PMTCT services, a total of 31 health providers directly involved in the PMTCT service delivery programme from the eight health institutions were interviewed using a structured and standardized questionnaire as shown in table 7.

Table 7: Distribution of health providers by profession and ownership of the health institutions. March 2009, Adama

SNo.	*Type of the health institution (number)*	*Profession of the respondents (health service provider)*			*Total*
		Medical doctor	*Registered nurse*	*Registered midwife*	
1	Government hospital (1)	2	3	4	***9***
2	Government health centers (2)	0	1	5	***6***
3	Non-governmental health center (1)	0	2	0	***2***
4	Private hospitals (2)	4	2	2	***8***
5	Private higher clinics (2)	2	2	2	***6***
Total		***8***	***10***	***13***	***31***

All health professionals interviewed work in more than one department and 14 (45.2%) of them spend more of their time in ANC department, 2 (6.5%), 9 (29%), and 6 (19.4%) of the health workers spend more of their time in a well baby clinic, labor ward, and family planning departments respectively. All health providers were knowledgeable about ways of MTCT. Providers were asked for the basic training for PMTCT they had and the training gap existing was identified according to providers' perception which is as presented below.

Table 8: Trainings taken by health professionals and their need for further training. Adama, March 2009.

SNo.	Basic trainings topic	Received training		Need more training	
		Yes Freq. (%)	***No Freq. (%)***	***Yes Freq. (%)***	***No Freq. (%)***
1	Antenatal care	11 (35.5)	20 (65.5)	15 (48.4)	16 (51.6)
2	Child survival/IMCI	6 (19.4)	25 (80.6)	19 (61.3)	12 (38.7)
3	Basic counseling	14 (45.2)	17 (54.8)	8 (25.8)	23 (74.2)
4	VCT for the prevention of mother-to-child transmission	24 (77.4)	7 (22.6)	10 (32.3)	21 (67.7)
5	HIV testing	20 (65.5)	11(35.5)	10 (32.3)	21 (67.7)
6	Provision of antiretrovirals for PMTCT	20 (65.5)	11(35.5)	10 (32.3)	21 (67.7)
7	Nutrition counseling	9 (29)	22 (71)	18 (58.1)	13 (41.9)
8	Infant feeding counseling and support for HIV-positive women	13 (41.9)	18 (58.1)	14 (45.2)	17 (54.8)
9	Optimal obstetric practices for HIV-positive women	12 (38.7)	19 (61.3)	15 (48.4)	16 (51.6)
10	Training in family planning service provision	18 (58.1)	13 (41.9)	7 (22.6)	24 (77.4)
11	Training on universal precautions	12 (38.7)	19 (61.3)	20 (65.5)	11(35.5)

Seven (22.6%), 8 (25.8%), and 16 (51.6 %) of the providers have been providing PMTCt services for less than six months, for six months to one year, and for more than one year respectively. Among the total providers; 21 (67.7%), 28 (90.3%), 29 (93.5%) of them are involved in provision of HIV counseling, infant feeding counseling, and obstetrics care respectively.

The average hour spent per day for counseling for MTCT by the counselors was 5.2 hours whereas the average day per week spent was 5.5 days. About fifteen (15) mothers

are counseled on average by each counselor per day for MTCT. From the total PMTCT providers interviewed, 22 (71%) of the providers said that their workload has increased since the introduction of the PMTCT service and all of them had got no incentives for providing those PMTCT services. Support from the respective health institutions was offered always for 18 (58.1%), sometimes for 9 (29%), and not usually or never for 4 (12.9%) of the PMTCT service providers. Among health professionals who provide obstetrical care (n=29), only 21, and 1 of the professionals were instructed on safe obstetric practices for HIV-positive women, and do not deliver HIV positive women respectively.

The top three most difficult problems providers encounter in performing their job in providing PMTCT-related services were lack of training, lack of feedback on job performance and inadequate salary.

7.3 Review of secondary data

To triangulate and complement the other data sources, secondary data were collected from monthly reporting formats and PMTCT register books as per the indicators on the national PMTCT guideline (table 9). Thus, conformation to the national guideline and achievements were evaluated.

As can be seen on table 8, data were collected from one government hospital and two government health centers as per the PMTCT national indicators for the period of six months September 2008 – February 2009. These indicators are selected to assess the activities towards meeting the third prong of the national PMTCT strategy (prevention of HIV transmission from infected women to their infants).

Table 9: PMTCT performance of the governmental health facilities from September 2008 to January 2009 based on the PMTCT indicators. Adama, March 2009.

S.No	Indicators	
1	Total number of new ANC attendees for the six months	1522
2	Total number of new ANC attendees counseled	1502
3	Total number of new ANC attendees tested	1338
4	Total number of new ANC attendees received their test result	1285
5	Total number of new ANC attendees tested positive	72
6	Total number of pregnant women received ARV prophylaxis	100
7	Total number of HIV infected women who received counseling on infant feeding	97
8	Percentage of new ANC attendees counseled	98.7%
9	Percentage of new ANC attendees counseled and tested	87.9%
10	Percentage of new ANC attendees counseled, tested and received their test result	84.4%
11	Total number of new ANC attendees partners tested	101
12	Percentage of partners of new ANC attendees tested	6.6%

The second approach undertaken to assess effectiveness of the third prong in the aforementioned institutions was assessing the HEI management and follow-up. In the six months period specified, there were 54 HIV exposed live births in the facilities. Among those the number of HEIs who received ARV prophylaxis were 48 (97.4% of the total HIV exposed live births). On the HEI follow up assessment, there were a total of 687 HEI enrolled in the follow up and cotrimoxazole prophylaxis was started at two months of age for 87.4% of the infants. HEIs charts were reviewed for infant feeding practice till the age of six months for those infants, 410 (100%) whose card's was filled, and 219 (53.4%), 120 (29.3%), and 71(17.3%) of the HEIs were on exclusive breast feeding, exclusive replacement feeding, and mixed feeding respectively till the age of six months. Among

HEI who are more than one year of age (216), HIV test was done for 61.3 % of the infants using either DNA/PCR or HIV antibody test at one year of age.

For assessment of activities in fulfilling the second prong of the national strategy for PMTCT (prevention of unintended pregnancies among HIV infected women), all charts of HIV infected reproductive age group women who are enrolled to HIV care were reviewed. Among a total of 3786 women of reproductive age group, only 684 (18.1%) of them were counseled about family planning and started to use family planning.

7.4 Assessment of institutional capacity to provide PMTCT services

A structured checklist was used to assess eight of (all of) the health facilities preparedness to provide sustainable PMTCT services and the way the facilities record and maintain all PMTCT related information or data for their coherence and completeness of the data in the six months time period (September 2008 – February 2009) was also assessed. The checklist comprises assessment of equipments and supplies (drugs, laboratory supplies, infection prevention supplies, basic obstetric supplies, and job aids and IEC materials). HIV test instruments were available in all of the institutions included in the study and all of the institutions provide HIV test for PMTCT activities. Nevirapine tablets or syrups are available in all of the government and two of the private hospitals. The two higher clinics and the non-governmental health center have the referral mechanisms in such cases when nevirapine is needed. In places where nevirapine was available; it was kept in both ANC clinic and labor and delivery ward.

The national PMTCT guide line was found in two of the government health institutions only. PMTCT monthly reporting format was available in the governmental hospital. The PMTCT labor and delivery register form, ANC register form, and ARV infant log were found in all governmental health facilities and the documentation were incomplete. The key informant from the government health facility said that, "*the new HMIS has incorporated much information which are less essential and omitted information which are more important*". All institutions had a delivery couch, delivery sets, and oxytocin.

Intra-facility referral slips were available in the governmental health institutions only. According to the key informant from the special zone health office, the recent institutional intervention BPR had created more commitment to job and also brought good management of time and other resources. So, clients are served fast and take the service they want with in short period of time.

Clients and health providers were asked about who is responsible, and what should be done to improve the quality of the PMTCT service and the clients during an FGD agreed that the government, the health providers, and the general public are responsible. The community should have a close relation ship with the government and should speak in a condition when the service quality is poor.

The key informant (the zonal HIV/AIDS and MCH process owner) outlined; to decrease the high turnover of health professionals, incentives and supportive supervision should be strengthened.

8. DISCUSSION

This study encompassed a multifaceted approach so as to address the specific objectives. The study is one among the limited studies which tried to assess the quality of PMTCT services and clients satisfaction. But what makes this study different from others is its multidimensional aspect in trying to incorporate the four prongs of the Ethiopian national PMTCT strategies.

Assessment of the client's knowledge about MTCT by using client exit interview and an FGD showed that all of the pregnant women were knowledgeable about at least one way of MTCT. But, by stratification only 33.4% of the pregnant women were able to depict MTCT of the virus during pregnancy which is inline with the percentage of pregnant mothers who were counseled on MTCT and PMTCT by their counselor on the date of interview which is only 39%. This output is very low as compared to a study which was carried out in Addis Ababa which reported that MTCT and PMTCT were discussed for 74.6% of the clients [32]. But, receiving information about PMTCT does not automatically mean that the information is understood or believed. Moral, sexual or other belief systems can override factual information and inhibit processing information into knowledge and action [33]. Their knowledge was concentrated on MTCT during labor, cord cutting, and during breast feeding. But this figure is almost similar with one study in Uganda, where HIV prevalence among pregnant women remains high, and 40% of women knew that MTCT was possible during pregnancy, 58% knew it was possible during delivery, and only 19% knew it could occur during breastfeeding [34]. In the same Ugandan study, only 29% of respondents had heard of any drug for PMTCT [35].

The total amount of time for which clients are intended to wait till they go out from the health facilities was considerably high; which can affect acceptance of VCT. In a PMTCT programme in Zimbabwe, the addition of PMTCT services required clients to spend an additional one and half hours in the ANC clinic. Finding innovative ways to minimize waiting times is important, not only for client convenience but also for improving the uptake of testing and counselling services [36].

Clients' degree of satisfaction with the session they had with their counselor at the date of an interview at Adama is higher than the degree of satisfaction of clients at Addis Ababa city which was about 89% (32). In the Addis Ababa study, 18% of the clients would prefer if their counselor could be of another one by sex or age. From the total respondents, only 3.3% of them don't want to come back to the clinic again. Since ANC is an ongoing and very essential care which needs sustainable support and high quality services, it is essential to address the need and expectation of the clients. Antenatal care provides an opportunity to counsel pregnant women about HIV risk and offer HIV testing. The management of a pregnant woman with HIV infection will depend on the resources available and the individual needs of the woman; a multidisciplinary team will optimize care. In women who know their HIV status, pre-pregnancy counselling may optimize medical care and minimize adverse outcomes [37].

A technical report from Kenya depicts, effective PMTCT requires that all health workers caring for a client know her HIV status and be able to maintain the confidentiality of their clients' HIV status. As to VCT for PMTCT, it is recommended if the person offering pre-test counseling will also provide the post test counseling since clients are highly concerned with confidentiality issues [38]. PMCT programs have successfully put in place new systems to ensure confidential sharing of HIV status within MCH settings in both Kenya and Zambia It is essential that a private venue/room be used for all discussions of HIV-related matters, particularly HIV diagnosis [3, 31]. In this study, only 34.3 of the women tested received post-test counseling by the person who provided the pre-test counseling.

A good quality ANC is a key to client satisfaction and creates a good opportunity to increase ANC seeking behavior in pregnant women as there is communication between women living in the same community. Among the total women interviewed, 61.9% of them came to the health institution recommended by their partners or friends and 47.8% of them have recommended the service to any one else.

In many PMTCT programs where VCT is available, low community acceptance and use of VCT services is a major barrier to identifying, counseling and treating HIV+ pregnant women and their partners [39].

From the total PMTCT providers interviewed, 22 (71%) of the providers said that their workload has increased since the introduction of the PMTCT service and all of them had got no incentives for providing those PMTCT services. A consultation report from Kenya also validates the fact that the introduction of HIV/AIDS prevention and care into the MCH setting has meant that health workers have been asked to greatly expand their responsibilities and tasks. Rarely has this been accompanied by financial and other types of compensation or the addition of new staff to share the work. Developing strategies for motivating health workers in these setting is thus also important for success. PMTCT interventions although designed to be part of routine services, they create significant additional work for staff already discouraged by long-standing problems such as low pay and inadequate medical supplies. Motivating staff is particularly difficult in larger, urban health facilities, where specialization of services is greater and different departments and cadres of providers are often reluctant to share or relinquish authority [31].

Among health professionals who provide obstetrical care (n=29), 72.4% of the professionals were instructed on safe obstetric practices for HIV-positive women and 55.2% of the professionals perform artificial rupture of memberanes, episiotomies, and vaginal examination. However; these activities pose a risk for MTCT of the virus.

A study done on an urban African obstetrical population revealed that obstetric factors also influence HIV transmission risk. The risk for perinatal transmission increases per hour duration of membrane rupture after controlling for other risk factors. Delivery >4 hours after the rupture of the fetal membranes can double the risk for HIV transmission. Maternal infection with another sexually transmitted disease (STD) during pregnancy and certain obstetrical procedures can also increase risk. Chorioamnionitis (i.e., uterine infection) has been associated with an increased risk for HIV transmission [40].

Among health professionals who provide obstetrical care (n=29), 3.45% of the professionals deliver HIV positive women and all of them are highly concerned with the professional exposure which influence undoubtedly the quality of care given for the client.

HIV/AIDS-related stigma and discrimination is also widespread among health workers. Some stigma among providers is undeniably related to assumptions about the educational, social, economic and class status of HIV+ people. Negative moral judgments about behaviors that led to becoming HIV+ are also widespread. But providers are also vulnerable to fear and concern about their own safety when caring for HIV+ clients, particularly during childbirth. Health workers sometimes fear that HIV acquired through patient contact/occupational exposure would be misinterpreted in the community as though it is due to their own unsafe sexual behaviors [34, 41].

In the result it is showed that some of the professionals who provide PMTCT services were not trained on basic training topics which have a significant reduction impact on the quality of the service they provide.

The key informant from the government hospital notified, to provide the appropriate service, all inputs should be available fully (appropriate diagnostic tests, human power and skill, counseling services and supplies) and refreshment trainings should be offered for health professionals timely since information is changing from time to time.

The success or failure of a PMTCT program depends upon the attitudes, skills, and experiences of its employees. Training healthcare workers at all levels (managers, nurses, midwives, physicians, social workers, counselors, and outreach workers) is critical to the success of PMTCT initiatives. Employee training should include: Adequate and accurate information about the transmission of HIV and the risk factors for infection, and activities that address HIV/AIDS-related stigma [3].

Based on the secondary data reviewed for the six months period (September 2008 – February 2009), 87.9% of the new ANC attendees received testing after being counseled.

A similar programme assessment in Botswana assessed the impact of routinely recommending HIV testing (i.e., opt-out testing) on the uptake of HIV testing. They evaluated routine antenatal HIV testing at four clinics in Francistown, the second largest city in Botswana, where HIV prevalence has been approximately 40% since 1995. Between February and April 2004, the first 3 months of routine testing, 90.5% (314 of 347) of pregnant women were tested for HIV, compared with 75.3% (381 of 506) of

women during October 2003–January 2004, the end of the client-initiated testing period. These findings underscore the potential of routine, rapid HIV testing to increase the number of people with access to PMTCT services [38].

When this percentage of pregnant women tested is compared with that of developed countries, in United States, when offered, most women (approximately 70% in most settings) will accept HIV testing. In a multicity study of prenatal clinic patients, 74%–95% of participants accepted HIV testing. Reasons most commonly cited for acceptance were a) belief that knowledge of positive HIV serostatus during pregnancy (and subsequent chemoprophylaxis) can be beneficial to both mother and infant and b) strong provider endorsement for prenatal HIV testing. The most common reasons for declining the test were no perceived risk, administrative scheduling difficulties, history of previous testing, and lack of provider endorsement [36].

A study carried out in urban African obstetrical population showed that, many factors have been shown to influence the “demand side” of the decision to seek and accept VCT as part of PMTCT programs, including fear of stigma, fear of more rapid death once knowing one’s HIV status, and unwillingness to participate in an intervention to prevent the baby from getting HIV if no maternal treatment is available [40].

Among one hundred HIV infected pregnant women, 97% of them were counseled on infant feeding. Counseling on infant feeding should consider factors as indicated in the consultation report written in Kenya [31]. Knowledge about the risks of transmission associated with various feeding choices is rapidly evolving. Furthermore, the decision about how to feed an infant is rarely the mother’s alone but is strongly influenced by her partner and her family. Many women live in environments that make the preparation of safe replacement formula extremely difficult, if not impossible. Mixing breast milk with other foods, the most common infant feeding pattern, is also the pattern that produces the highest risk of HIV transmission. Helping women make informed choices about feeding also has an impact on the acceptability of other components of the PMCT package.

From a total of 410 HEIs whose cards were completed for infant feeding practice; 219 (53.4%), 120 (29.3%), and 71(17.3%) of the HEIs were on exclusive breast feeding, exclusive replacement feeding, and mixed feeding respectively till the age of six months.

If there are no interventions, about 5 20% of infants of HIV-positive mothers become infected through breastfeeding. There is evidence that exclusive breastfeeding in the first months of life is safer than mixed feeding. If mothers are on ART for their own health, transmission through pregnancy and breastfeeding is likely to be reduced. Early diagnosis also assists in decision-making on breastfeeding. An HIV-positive mother with an HIV-uninfected baby can be counselled and supported to stop breastfeeding if replacement feeding is acceptable, feasible, affordable, sustainable and safe (AFASS).
If the baby is HIV-infected the mother can be counselled and supported to continue breastfeeding. Finally, early diagnosis of HIV in infants assists families in life-planning [42].

Among HEI who are more than one year of age (216), HIV test was done for 61.3 % of the infants using either DNA/PCR or HIV antibody test at six weeks of age. This figure is very low and such a condition results in rejection of useful treatment and preventive remedies for the HEIs. Early diagnosis of HIV allows health-care providers to offer optimal care and treatment of HIV infected children, assists in decision-making on infant feeding, and avoids needless stress in mothers and families [42]. WHO recommends that early diagnosis be performed with virological testing at the age of 6 weeks or any time subsequently, initiated by the responsible health care providers.

When assessment of the HEI follow up was assessed, there were a total of 687 HEI enrolled in the follow up and cotrimoxazole was started at two months of age for 87.4% of the infants. All infants born to HIV positive mother should receive a cotrimoxazole prophylaxis [35]. Postnatal evaluation of infants at risk for HIV infection that begins immediately after birth is the key to early diagnosis and optimal medical management of infected children. PCP is the most common opportunistic infection in children with AIDS and is often fatal. Because PCP occurs most often in perinatally infected children at ages

3–6 months, effective prevention requires that children born to HIV-infected mothers be identified promptly, preferably through maternal testing, so that PCP prophylactic therapy can be initiated at age 6 weeks.

Women who are infected with the virus and who are in the reproductive age group should have all the appropriate information about family planning and access to family planning. Thus, integration of family planning in the HIV/AIDS services is mandatory.

From a total of 3786 women of reproductive age group, only 684 (18.1%) of them were counseled about family planning and started to use family planning. The Study for Integration of FP and VCT, PMTCT, and ART Programs in Uganda was carried out between October 2004 and February 2005 to assess the national policy environment regarding the possibility of providing FP services in VCT, PMTCT, and ART settings and to identify existing barriers to and successes of the integration of FP in these services. The study showed that family planning service can be integrated to HIV/AIDS programs [43].

It is essential that a private venue/room be used for all discussions of HIV-related matters, particularly HIV diagnosis [3]. One key informant outlined that clients number are increasing from time to time, and to cope with this additional buildings were constructed and additional training of man power is necessary.

Accurate facility records provide essential information for providing quality health care and monitoring PMTCT programs and flow of the health records are highly essential. Staff members should record the PMTCT services provided in standard ANC and maternity ward registers as part of routine MCH data collection [3, 15].

9. STRENGTH AND LIMITATION OF THE STUDY

Strengths

- Assessment of the four prongs of the national PMTCT strategy.
- Use of various qualitative and quantitative approaches which involved clients, health providers, facilities and registration systems.
- Inclusion of all institutional types by ownership and by level.
- Retrospective assessment of the recent past six months performances.

Limitations

- Not able to see the difference between urban setups and rural setups (lack of comparison between urban and rural settings).
- Limitation in assessing the first prong of the national PMTCT strategy.
- Non-inclusion of men in the study.

10. CONCLUSION

From the ANC attendants, 74.7 % of them were fully satisfied. Little more than half (52%) of pregnant women were counseled on MTCT and PMTCT. The average client waiting time was 24.5 minute. Clients from private health institutions tend to wait more time than those from public health institutions. Infant feeding counseling was found to be highly ignored in all of the health institutions. More than sixty one percent (61.9%) of the clients came to the ANC service by being recommended with others and 47% of the clients have also recommended the ANC PMTCT service to others. Male involvement in the PMTCT activities was found to be extremely low. Furthermore, there was no adequate family planning service provision together with HIV/AIDS services.

The technical competence of the health provider, the availability of advanced medical equipments and laboratory tests, and good infrastructure were the most significant requirements from the client's side to say the service is of high quality.

Only two third of the health providers who are directly involved in PMTCT services received training on VCT for PMTCT. From the providers' side the most eminent problems were lack of training to update them selves with current situation, lack of feedback on job performance and lack of incentive for the additional burden added to them.

From the pregnant mothers counseled on testing, not more than 90% of them accepted testing and all women enrolled in HIV care were not counseled on family planning.

Not all infants born to HIV positive mothers were given ARV prophylaxis, and cotrimoxazole prophylaxis was not started for all HEIs who were at follow up at six months of age. The national PMTCT guideline was found in ANC and labor wards of two of the government health facilities. Private health facilities lack conformation to the national strategy and their documentation system is not standardized.

11. RECOMMENDATION

- Offering counseling on MTCT and PMTCT to all pregnant women.

- Strengthening provider capacity to deliver quality, comprehensive PMTCT interventions should be focused.

- To give quality and comprehensive PMTCT interventions by reducing clients' waiting time as much as possible.

- Enabling women to communicate with their partners about HIV testing. Furthermore, giving information on PMTCT directly to men rather than through women.

- Creating a strong link between HIV/AIDS and reproductive health services rapidly to integrate program objectives, behavior change objectives, and delivery of integrated services

- Provision of support and follow up for private health facilities to enable them give standardized PMTCT service.

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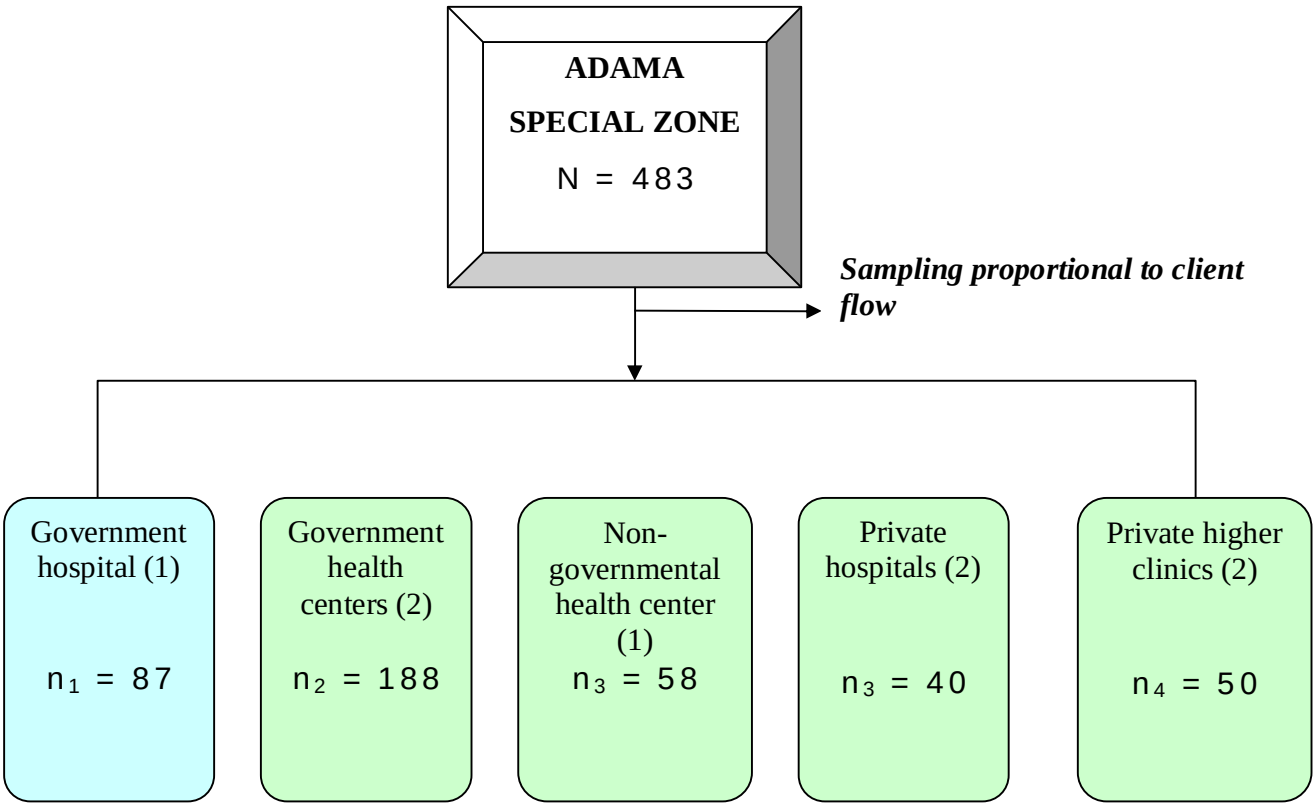
ANNEXES

ANNEX I. SAMPLING PROCEDURE



ANNEXE II. QUESTIONNAIRES

QUESTIONNAIRE I

Addis Ababa University

School of Public Health

Information on the purpose of the study

This is a study which is undertaken by FMOH, Oromia Regional health bureau, and AAU to assess the overall quality of PMTCT service which is provided for pregnant and delivered mother in the past six weeks.

Selection of respondents was decided by chance. Therefore, you are selected by chance.

The questions which you will be asked are intended to come up with responses which are very essential for the program improvement. All information you provide to us will be kept confidential and your name will not be asked to maintain anonymity. No other person working in this or other health institution, participating in this study will not be told any information about you.

The information which you provide us will be a feedback for both the governmental and non governmental organizations to improve the quality of PMTCT services. You have a full right not to participate in the study or withdraw yourself from the study at any time.

Investigator: signature_____date_____

Client 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. ☐
2. Disagreed to participate in the study. ☐

Signature: _____ Date: _____

N.B. If you have any unclarity or doubt about the study you can contact the principal investigator.

Address of the principal investigator

- Mobile number ***+251911754684***

Questionnaire for Exit Interview of Clients to asses their satisfaction towards PMTCT service in Adama city

Health institution Private ¨ Governmental ¨ Non-Governmental ¨

Name of the health institution: _____

Address of the health institution (Kebele): _____

Code: _____

Interview date in G.C.: _____

Name of the interviewer: _____

SNo.	***Question***	***Possible responses***	***Skip patterns***
A001	Address	1. Adama city 2. Out of Adama city	
A002	Completed years of age		
A003	Religion	1. Orthodox 2. Muslim 3. Protestant 4. Catholic 5. Other (Specify)_____	
A004	Marital status	1. Single 2. Married 3. Divorced 4. Widowed 5. Others (Specify)	
A005	Maximum attained educational status	1. Illiterate 2. Illiterate, but able to write and read 3. Grade 1-6 4. Grade 7-12 5. College and above	
A006	Ethnicity	1. Oromo 2. Amhara 3. Tigre 4. Others (specify)	
A007	Occupational status	1. Housewife 2. Merchant	

		3. Government employee 4. Student 5. Daily laborer 6. Others (specify)	
A008	For pregnant mothers :		
	♦ Gestational age in week		
	♦ Gravidity		
A009	For postnatal clients		
	♦ Parity		
	♦ Completed weeks after delivery		

A010	Have you talked to your counselor today about:		**YES**	**NO**
		♦ Having an HIV test		
		♦ Receiving test results		
		♦ Issues arising from an HIV test taken Some time ago		
		♦ Other issues (specify)		
A011	Have you discussed with your counselor today about		**YES**	**NO**
		♦ HIV/AIDS		
		♦ Infant feeding practice		
		♦ MTCT & PMTCT		

A012	On which one did you counseled well? and which one do you best understood?		
A013	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	
A014	How many visits have you made to your counselor at this clinic?	_____visits	
A015	Are you happy with the session you had today?	YES ¨ NO ¨	

A016	How did you first come to the centre?		
	♦ Referred (specify by whom)		
	♦ Recommended to come (e.g. by partners/friend		
	♦ Just dropped in		
	♦ Other (specify)		
A017	How much time did you spend: (in minute)		
	♦ Getting your first appointment	_____minute	
	♦ Waiting for your HIV test result	_____minute	
	♦ Waiting to see your counsellor today	_____minute	
	♦ In the session with your counsellor Today	_____minute	
A018	Would you say that the amount of time you spent was:	Too much ¨ Just right (reasonable) ¨ Too short ¨	
A019	Are you satisfied with the technical competence of the counselor?	YES ¨ NO ¨	
A020	Did you feel comfortable with your counselors handling of the client?	YES ¨ NO ¨	
A021	Was there enough privacy during your counseling?	YES ¨ NO ¨	
A022	Do you wish you had a different counsellor (different sex, older, younger)?	YES ¨ NO ¨	
A023	Were you able to see the same counsellor for discussion both before and after the test?	YES ¨ NO ¨	
A024	Is there anything you did not like during the discussion about HIV/AIDS? If ***yes***, please what is it?_____ _____	YES ¨ NO ¨	
A025	Would you have preferred that HIV/AIDS not be discussed during your antenatal visit? Why?_____ _____	YES ¨ NO ¨	

A026	Would you come back to this clinic for your care? If ***Yes,*** why?_____ _____ If ***No***, why not?_____ _____	YES ¨ NO ¨	
A027	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? If ***Yes,*** why?_____ _____ If ***No***, why not?_____ _____	YES ¨ NO ¨	
A028	Have you recommended the service to any one else? (Specify who and how many people)	YES ¨ NO ¨	

How do you view your counsellor? Describe the good and bad things about him/her_____

_____

Could you suggest three major things to be improved?

1. _____
2. _____
3. _____

Information on the purpose of the study Amharic version

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Client Consent Form Amharic version

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Questionnaire Amharic version

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	♦ ÃI •š`Ó´ e } •š`Ó´ -' ¨‹;		
A009	x¨K=É uíL šex eÉe' dU ' LK‹ š 9		
	♦ ÁG‹ ‹ ¨K=É e } - ¨K=É ¨‹;		
	♦ x¨KÆ uíL U ÁIM dU ' J -{M;		
SNo.	***Question***	***Possible responses***	***Code***

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A013	¨Å²=I ¨K=É ¡ ' 'M ¡K=›¡ KU SÖ‹;	1. ¾š`Ó´ ¡ ' 'M KTÉ[Ó w0 2. ¾: ?9 : Ã y= U`S^ KTÉ[Ó 3. MÎ x: ?9 : Ã y= zÃ[e šxLxM ² É I¡U KS¨‹cÉ	
A014	u²=G‹ ¡K=›¡ x: T"] - Ò` U ÁIM Ñ‹wÜ : Å[Ñ‹;	_____ Ñ‹wÜ	
A015	³_ u u[- ' Ñ›²? }Åe}ªM;?	: - ¨ : Ã ¨	
A016	¨Å²=I ¡K=›¡ KSËS]Á Ñ›²? š È' SÖ‹;		
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A022	u³_ ¨‹ qÃ{ - : T"] - K?L u=J ÃhM - u`; ()Tj 1 0 0 1 120.96 705.57 Tm (¾)Tj 1 0 0 1 127.44 705.57 Tm (})Tj 1 0 0 1 13	: - ¨ : Ã ¨	
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Information on the purpose of the study Oromifa version

YUNIVARSITII ADDIS ABABA

KUTAA BARNOOTA HAWAASA FAYYAA

ODDEEFANNO QO'ANNICHAA

Qo'annon kun kan adeemsifamu ministra eegumsa fayyaa, biiroo eegumsa fayyaa Oromiyaa fi yuunivarsitii Addis Ababaa wallin ta'un. Qo'annichis qulqulina tajaajila fayyaa vaayrasiin HIV akka hadhoo irraa gara mucaa ulfa keessaatti hin dabarreef taasifamu illaallata.

Hirmaatonni qo'annichas kan filataman carraan ta'a. kanaaf kan isiin filamtannis carradhaan. Odeefannon isiin irraa argamaniis odeefanoo biraa waliin ta'uun tajaajila fayyaa kan ollin ibsamee foyyeessuf baayee garagara. Qo'annoo kana irrati maqaan keessan hin barbaachisu, odeefannon isiin irra argamus nama kan birraati gonkumaa hin himamuu. Nammonni dhaabata fayyaa kana kessa tajaajilan kammiyyu waa'ee odeefanno keessan akka beekan hin heyyamamuuf.

Yeroo barbaadanitti gaafannoo kana addan kutuu yookaan dhabu ni dandeessan. Gaaffii hin barbannees irra darbuu ni dandeessan.

Gaafannoo kan xumuruuf gara daqiiqaa 20 ni fudhata

Odeefannon issiin irraa argamuu mottumaan fi dhabattooni biraa tajaajila fayyaa kana foyyessuf tattaffii godhaa jiraniif baayyee gargaara.

Mallattoo gaafataa: _____ Guyyaa: _____

Client Consent Form Oromifa version

Formii walii-galtee

Waa'ee kaayyoo fi bu'aa qo'aniichaa natti himanii jiru. Odeefannon waa'ee kiyya ibsaniis akka nama birraatti darbanii hin kennamnees natti himanii jiru. Kan armaan oliitti ibsaman hubachuudhaan qo'annoo kana irrattii hirmaachuuf feedha kiyyan:

1. Heeyameera. ☐
2. Hin heeyamnee ☐

Mallattoo gaafatamaa (hirmaataa):_____ Guyyaa: _____

Qo'anno kana irrattii gaaffiii yoo qabdan qo'ataa gaaffaachuu ni dandeessaan

Lakk bilbilaa: +251911754684

QUESTIONNAIRE II

Questionnaire for health care providers Interview to assess opinion of the PMTCT service in general in Adama city

Health institution Private ¨ Public ¨

Name of the health institution: _____

Address of the health institution (Kebele): _____

Interview date in G.C.: _____

Name of the interviewer:_____

Code: _____

No.	Questions	Responses - Codes	Skip patterns
001	What is your current job(s) in the facility? DO NOT READ RESPONSES. PROBE. CHECK ALL THAT APPLY.	Physician/Clinical officer .....1 Nurse.....2 Midwife .....3 Trained counselor/Psychologist .....4 Lay counselor .....5 Nutritionist .....6 Technical officer .....7 Other (please specify) 88	
002	What type of basic training have you had? DO NOT READ RESPONSES. PROBE. CIRCLE ALL THAT APPLY.	Registered Nurse.....1 Registered midwife.....2 Enrolled nurse .....3 Enrolled midwife.....4 Clinical officer.....5 Medical doctor .....6 Counselor .....7 Nutritionist .....8 Social worker .....9 Other (please specify) 88	
003	In which departments do you work? CIRCLE ALL THAT APPLY.	ANC .....1 Well-baby clinic.....2 Labor room.....3 Post-partum ward.....4 Family planning .....5 Other .....88 (Specify)_____	
004	If more than one department, in which department do you spend most of your time?	ANC .....1 Well-baby clinic.....2 Labor room.....3 Post-partum ward.....4 Family planning .....5 Other .....88 (Specify)_____	

<table>
<tr><td>005</td><td>When can HIV be passed from a mother to her child? DON'T READ RESPONSES, BUT PROBE. CIRCLE ALL THAT APPLY.</td><td colspan="3">During pregnancy ……..1
During delivery …….……..…...2
Through breastfeeding ……..……3
Don't know ……..……..4
Other (specify) _____ 88</td><td></td></tr>
<tr><td>006</td><td>What can women do to reduce the risk of HIV transmission during pregnancy? DO NOT READ RESPONSE. PROBE WITH "ANYTHING ELSE?" CIRCLE ALL THAT APPLY.</td><td colspan="3">Take medicine ……1
Use condom ……...2
Abstain from sex ……3
Eat better ……4
Seek antenatal care ……..……..5
Nothing ……..……6
Other (specify) _____ ……88</td><td></td></tr>
<tr><td>007</td><td>Have you received any training in the following areas?</td><td>Training areas</td><td>yes</td><td>No</td><td></td></tr>
<tr><td></td><td></td><td>1. Antenatal care</td><td>1</td><td>2</td><td></td></tr>
<tr><td></td><td></td><td>2. Child survival/IMCI</td><td>1</td><td>2</td><td></td></tr>
<tr><td></td><td></td><td>3. Basic counseling</td><td>1</td><td>2</td><td></td></tr>
<tr><td></td><td></td><td>4. VCT for the prevention of mother-to-child transmission VCT for PMTCT)</td><td>1</td><td>2</td><td></td></tr>
<tr><td></td><td></td><td>5. HIV testing</td><td>1</td><td>2</td><td></td></tr>
<tr><td></td><td></td><td>6. Provision of antiretrovirals for PMTCT (i.e., provision of NVP or AZT)?</td><td>1</td><td>2</td><td></td></tr>
<tr><td></td><td></td><td>7. Nutrition counseling</td><td>1</td><td>2</td><td></td></tr>
<tr><td></td><td></td><td>8. Infant feeding counseling and support for HIV-positive women</td><td>1</td><td>2</td><td></td></tr>
<tr><td></td><td></td><td>9. Optimal obstetric practices for HIV-positive women (i.e.,avoidance of ARMs, episiotomies?)</td><td>1</td><td>2</td><td></td></tr>
<tr><td></td><td></td><td>10. Training in family planning service provision</td><td>1</td><td>2</td><td></td></tr>
<tr><td></td><td></td><td>11. Training on universal precautions</td><td>1</td><td>2</td><td></td></tr>
<tr><td>008</td><td>Are there any areas in which you have not been trained where you feel you need more training?</td><td colspan="3">1. Yes ..……1
2. No …..……..2</td><td>If "1" skip to 010</td></tr>
<tr><td>009</td><td>If your answer to the above question is "Yes", what are the areas? CIRCLE ALL THAT APPLY</td><td colspan="3">1. Antenatal care……..…..……...1
2. Child survival/IMCI …….……..2</td><td></td></tr>
</table>

		3. Basic counseling ……..…..…….3 4. VCT for the prevention of mother-to-child transmission VCT for PMTCT) ….……...4 5. HIV testing ……...…….5 6. Provision of antiretrovirals for PMTCT *(i.e., provision of NVP or AZT*)?.....6 7. Nutrition counseling …….....…….7 8. Infant feeding counseling and support for HIV-positive women ……..8 9. Optimal obstetric practices for HIV-positive women (*i.e.,avoidance of ARMs, episiotomies?)* ……9 10. Training in family planning service provision Training on universal precautions……10	
010	Are you directly involved in the PMTCT intervention?	Yes ……..1 No ……2	If "1" skip to 013
011	Which of the following PMTCT-related services do you provide personally?	Yes No Pre-test/post-test counseling .....1.....2 HIV testing ..... 1.....2 Ongoing counseling ..... 1.....2 Nutrition counseling..... 1.....2 Family planning ..... 1.....2 Obstetrics.....1.....2 ARV for mother..... 1.....2 ARV for infant ..... 1.....2 Infant feeding counseling ..... 1.....2 Infant feeding support .....1.....2 Infant follow-up ..... 1.....2 Care for HIV-positive children..... 1.....2	
012	For how long have you been providing PMTCT services?	Less than 6 months ……1 6 months to one year ……..2 More than 1 year ……..……3	
REFER ABOVE IF RESPONDENT PROVIDES HIV COUNSELING (including infant feeding, pre- & post-test counseling, nutrition counseling, ongoing counseling). ***IF NOT GO TO 018***			
013	For how long have you been doing HIV counseling for MTCT? *(NOTE: HIV counseling for*	Less than 6 months ……1 6 months to one year ……..2	

	MTCT includes infant feeding counseling, nutrition counseling, pre and post test counseling, and ongoing/follow-up counseling, for pregnant women)	More than one year ……...…….3	
014	How many **hours per day** do you do HIV counseling for MTCT?		
015	How many **days per week** do you do HIV counseling for MTCT?		
016	On average, how many clients do you see per day?		
017	Do you provide any ongoing counseling to HIV-negative women?		
Infant feeding counseling **FILTER**: INTERVIEWER: IF INFANT FEEDING COUNSELING IS NOT PROVIDED, ***GO TO 023***			
018	Do you feel adequately prepared to counsel HIV-positive women in infant feeding?	Yes ……..1 No ……..2	If "1" skip to 020
019	If no, why not?		
020	Do you refer HIV-positive women to services outside your clinic?	Yes ……..1 No ……..2	If "2" skip to 022
021	Where do you refer those women?	1. Government hospital ……..……1 2. Government health center……..…….2 3. Private hospital ……..……..……3 4. Private higher clinic……4 5. NGOs……..5 6. PLWHA associations ……6 7. Other ……..……..……88	
022	How many clients do you see in a day?		
OBSTETRICS FILTER: REFER TO **011** IF RESPONDENT PROVIDES OBSTETRIC CARE. **IF NOT, GO TO 028**			
023	Do you deliver HIV-positive	Yes ……..1	If "1", skip

	women?	No ……..2	to 025
024	Why not?		
025	Do you perform ARMs, episiotomies, and vaginal examination?	Yes ……1 No ……..2	
026	Have you been instructed on safe obstetric practices for HIV-positive women?	Yes……..……1 No ……..2	If "2", skip to 025
027	If yes, for all women, some women?	For all women%_____ For multigravidas %_____ For primigravidas only %_____	
PROVIDER ATTITUDE AND SATISFACTION **Provider Satisfaction**			
028	Do you feel you are able to meet the needs of your clients?	Yes ……1 No ……..2	If "1", skip to 030
029	If not, explain		
030	Has your workload increased since the introduction of the PMTCT service?	Yes ……1 No ……..2	
031	Do you feel that you receive support from the hospital administration?	Yes, always/usually ……..……1 Sometimes ……2 Not usually/never ……3	
032	What type of incentive(s) do you get for providing PMTCT services? DO NOT READ RESPONSES. PROBE WITH "ANYTHING ELSE?" CIRCLE ALL THAT APPLY.	Increased salary ……..1 Training ……..……2 Status ……..……3 Nothing ……..……4 Other (specify)_____ ……88	
033	What are the most difficult problems you encounter in performing your job in providing PMTCT-related services? CIRCLE ALL MENTIONED. PROBE: ANYTHING ELSE?		

	Yes	No
Lack of supervision	1	2
Lack of feedback on job performance	1	2
Lack of training	1	2
Lack of supplies and/or stock	1	2
Inadequate facilities	1	2
Staff shortages	1	2
Too many patients	1	2
Poor working environment	1	2
Demoralized staff	1	2
Lack of time to do job	1	2
People don't use facility	1	2
Inadequate transport for patients	1	2

		Inadequate salary			1	2
		Security			1	2
034	***Please indicate how you feel about each of the following statements:***	***Always***	***Often***	***Occasionally***	***Never***	
	I feel emotionally drained by my work as a counselor in ANC/MCH services.	1	2	3	4	
	My work is very stressful.	1	2	3	4	
	My work is very rewarding.	1	2	3	4	
	My work environment is very stressful.	1	2	3	4	
	I learn something new in my work every day.	1	2	3	4	
	I feel isolated in my work.	1	2	3	4	
	I have problems communicating with my colleagues.	1	2	3	4	
	I can help my clients.	1	2	3	4	
	I have no confidence in my clinical skills.	1	2	3	4	

Provider Attitudes

Please indicate how you feel about the following statements. Please respond using the following statements: Agree, Somewhat agree, somewhat disagree or Disagree. Remember, there is no right or wrong answer.

Statement	Agree	Somewhat agree	Somewhat disagree	Disagree
The MTCT program is a very important service for women in this clinic	1	2	3	4
There is not enough time to give to the MTCT program.	1	2	3	4
Providing MTCT services stops us from providing good antenatal services.	1	2	3	4
I do not like working with women with HIV because I worry about getting infected from them	1	2	3	4

QUESTIONNAIRE III:

A checklist to assess facilities preparedness to give PMTCT services

Name of the health facility:_____

Type of the facility: Gov'tal ¨ Non-Gov'tal ¨ Private ¨ Other ¨

Date of visit:_____ Code of the checklist:_____

Name of supervisor:_____ Signature:_____

	Always Available	***Never available***	***Out of stock or sometimes available***
Nevirapine tablet: Nevirapine syrup:			
Where is nevirapine kept? **1.** In ANC YES ¨ NO ¨ **2.** In labor and delivery ward YES ¨ NO ¨			

Laboratory supplies

	Always Available	***Never available***	***Out of stock or sometimes available***
HIV screening test kit			
HIV confirmatory test kit			
HIV tie breaker test kit			
Nunc tube			
Test tubes			
Paster pippet tip			

Infection prevention supplies

	Always Available	***Never available***	***Out of stock or sometimes available***
Sharp boxes			
Aprons			
Goggles			
Autoclaves			
Gloves			

Basic obstetric care supplies			
	Always Available	***Never available***	***Out of stock or sometimes available***
Delivery couches			
Delivery sets			
Oxytocin			

How are the kits and supplies stored?_____

Job aids and IEC materials			
	Always Available	***Never available***	***Out of stock or sometimes available***
PMTCT brochures			
PMTCT leaflets			
PMTCT guideline			
Monthly summary reporting format			
PMTCT stickers			
Paediatric follow up register form			
Labor and delivery register form			
Laboratory log book			
Referral linkage			
Laboratory referral slips			

Are the reports and the registrations complete?

Is health education on PMTCT given? YES ¨ NO ¨

If yes how many times per week? _____

ANNEX III

<u>Key informant in-depth interview guide on quality of PMTCT services.</u>

Identifier of the respondent_____

Name of the health office_____

Date of the interview_____

1. Can you please tell me how do you understand quality of health services?

   Probe: component of quality of health services

2. How do you explain the quality of PMTCT services in Adama City?

   - Determinants of the quality
   - Any change over time
   - Any new institutional intervention

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

   Probe:

   - Lack of providers
   - Provider's professional incompetence
   - Lack of facilities, equipment and supplies
   - Lack of supervision
   - Others

4. What should be done to improve quality of PMTCT services in your locality (Adama city)?

ANNEX IV

Focus group discussion qualitative guide for antenatal care attendants

1. Can you please tell me how you understand/describe quality of health services?

   Probe: emphasize on the quality of antenatal care services
2. What characteristics/attributes do you look for a good quality of health care?

   Probe: good antenatal care
3. Why you undergo or attend antenatal care? Who told you or from where you heard?
4. Who are the beneficiaries of antenatal care? And how should they benefit?
5. Do you know how an HIV virus can be transmitted from a mother to her child?

   Probe: ways of transmission, from where you heard?
6. What are the major barriers for good quality of antenatal care?
7. How much are you satisfied with the quality of health care?

   Probe: antenatal care
   a. In the public health system
   b. In the private health system
8. Who is responsible for improving the quality of antenatal care in your area?
9. What should be done or changed to improve the quality of antenatal care?
10. Is there anything that you want to add?

Thank You!

No	Age	Signature
1.		
2.		
3.		
4.		
5.		
6.		
7.		

Declaration

I the undersigned declared that this thesis is my original research work in partial fulfilment of the requirements for the degree of masters of public health. All the sources of the materials used for this thesis and all people and institutions who gave support for this work are fully acknowledged.

Name of the PI: Anteneh Assefa

Signature: _____

Date of submission: _____

This thesis work has been submitted to Addis Ababa University, Medical Faculty, School of Public Health with my approval as the university advisor.

Advisor's name: Dr. Getnet Mitikie (MD, MPH, PhD)

Signature: _____

Date: _____