Addis Ababa University

College of Health Sciences

School of Public Health

Factors influencing utilization of PMTCT service and referral linkage among HIV positive pregnant women before delivery in Hawassa public health facilities.

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TABLE OF CONTENT

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LIST OF TABLES

LIST OF FIGURES.

ACRONIYMS

AIDS: Acquired immune deficiency syndrome

ANC: Antenatal care

EDHS: Ethiopian demographic health survey

EFY: Ethiopian Fiscal year

FGD: Focus group discussion

FMOH: Federal minister of health

VCT: Voluntary counseling and testing

HIV: Human immuinoe virus

HSDPIV: Health sector development program

IDI: In-depth interview

MSG:Mother support group

MTCT: Mother-to-child transmission

NVP: Nevirapin

OPD: Out Patient department

PMTCT: Prevention of mother to child transmission

PPTCT: Prevention of parents to child transmission

STI: Sexually transmitted infection

SNNPR: Southern Nations and Nationalities Peoples Region

TB: Tuberculosis

TBA: Traditional birth attendant

UNAIDS: United Nations Programme on HIV/AIDS

UNICEF: United Nation International Children Emergency Fund

WHO: World Health Organization

ABSTRACT

Background : Mother -to- child transmission of HIV infection is the major source of infection under the age of 15 and global coverage of prevention of mother-to-child services reached 53% in 2009 .However, factors that influence utilization of PMTCT service and referral linkage to chronic ART clinic for HIV positive pregnant women are not well studied in Hawassa town.

Objective: To assess factors that influence utilization of PMTCT service and referral linkage to chronic care before delivery in HIV positive pregnant women.

Methods: Facility based cross sectional study was conducted in 6 Hawassa town public health facilities. Using systematic sampling procedure 588 study subject were included in the study. In-depth interview was also used to gather greater depth of information. A pretested structured questioner was used to collect data and the data analyzed using SPSS version 17. Moreover, bivariate and multivariate logistic regression model with crude and adjusted OR along with their 95% confidence interval were used to see the independent effect of factors influencing utilization of PMTCT service.

Results: A total number of 588 pregnant women were included in this study. Five hundred thirty one (90.3%) of the respondents reported they had under gone voluntary counseling and testing and 522(98.67%) of those who were tested received the test result and Four hundred ninety nine (95.6%) were negative and twenty three (4.4%) were positive. Out of 23 women who were positive HIV status twenty women were linked to chronic ART care service 12 of them with formal referral linkage and eight of with non-formal and nine of those who were linked to chronic ART care service started HAART while seven started ARV prophylaxis. Pregnant women who were two or more number of ANC attendance were more likely to utilize PMTCT service when compared to other sources [AOR=2.99% CI=1.44, 6.23]. The pregnant women believed that their husbands support couple testing were associated with utilization of PMTCT service [AOR=16.2,95% CI= 6.58, 39.67].The pregnant women who support the idea of every pregnant should be tested also associated with utilization of PMTCT service [AOR=9.86, 95% CI=3.67, 26.51].

Conclusion: partner involvement, increasing access of women to VCT, community based education and sensitization targeted to the women and promoting PMTCT service to all facility and improving referral system and getting feedback between facilities will create good referral system between facilities is recommended.

1. INTRODUCTION

1.1 Background

Worldwide 34.4 million people are estimated to live with HIV. This 2010 G.C. estimate showed that 15.7 million were women and 2 million were children younger than 15 years of age. In the same year an estimated 390,000 children were newly infected. Without intervention, 25-40% of infants born to HIV-positive mothers will become infected (1). In terms of intervention, the number of pregnant women receiving antiretroviral therapy increased from an estimated 354, 600 in 2009 to 456, 000 in 2010, but the coverage for the estimated two million children in need is only 23% much lower than the 51% coverage of antiretroviral therapy among adults (1).

In sub-Saharan Africa the estimated numbers of pregnant women living with HIV were about 1.4 million in the year 2010. In the same year 350,000 children were newly infected with HIV and about 230,000 children died from AIDS-related causes. Each year, over half a million newborns are infected with HIV through mother-to-child transmission (1).

In Ethiopia, the overall HIV prevalence has remained low; 1.5% of women and men age 15-49 are HIV-positive. HIV prevalence is 1.9% for women and 1.0% for men. HIV prevalence is six and a half times higher among women living in urban areas (5.2%) than among women living in rural areas (0.8%)(2). As to the year 2011 report a single point estimate HIV infected pregnant women in the last 12 months was 75,420 and the number of HIV infected pregnant women who received antiretroviral during the last 12 months to reduce mother-to-child transmission was 4,888 (3). According to EDHS 2011 report in the SNNPR region among all pregnant women age 15-49 only 7.8% of women received VCT service(2).

1.2 Statement of the problem

The global plan to eliminate new HIV infections among children and improve the health of pregnant mothers set ambitious targets for the year 2015. But, the coverage of HIV interventions for children and pregnant women still remain low (1).In Ethiopia ANC coverage in the country is far lower than national targets, and in most settings ANC and PMTCT are not strongly linked. Surveys have revealed low level of awareness and knowledge about the possibility of HIV transmission from infected mother-to-child, with most mothers not being aware of the existence of antiretroviral medication to reduce the risk of transmission. Therefore, utilization of HIV counseling and testing in pregnant women is poor and the PMTCT program has been identified as a program with critical programmatic gap (3).

Those pregnant women who have used HIV counseling and testing service and have known their status at ANC clinic are expected to be referred to ART units where they can get the appropriate prophylaxis and ART for those eligible. However, to date the referral system is not yet well established between the ANC service provider and HIV care-givers, and the monitoring and evaluation system is not strong, so it is really not known what percentages of HIV positive pregnant women who require services are actually have referral linkage (4).

According to national report in the year 2011, 82% of pregnant women have taken ANC service at least once, on the same year PMTCT services were available for 54% of the women who have attended ANC clinics at health facilities, but above 25% were not tested, 20755 pregnant women were identified HIV positive at PMTCT sites and ARV prophylaxis was provided for only 8365 HIV infected pregnant women and 4945 for their new born. The ANC service also report 23% drop out from counseling to testing and 60%from identification to prophylaxis (5).

In SNNPR region in the year 2011 the number of pregnant women enrolled to ANC service were 45, 568 from this number, 90% tested for HIV and 2.3% were HIV infected and ARV prophylaxis was provided for only 69% HIV infected pregnant women and for 52.1% of their babies (6). The HIV prevalence among pregnant women in the region shows a declining trend as a result of increased NVP utilization by the women. On the other hand, the large proportion of babies born to HIV positive women did not receive NVP. The discrepancy between NVP utilization by the women and babies seems to be widening year by year (7). Additionally, factors

that influence utilization of PMTCT service and referral linkage to chronic ART clinic for HIV positive pregnant women are not well studied in Hawassa town.

1.3 Significance of the study

Various studies shows that the utilization of PMTCT service in Ethiopia is challenging with large population and result high number of people living with HIV, low service uptake, limited capacity of health system, poor referral linkage to the community and weak integration with other health system (3,14,28).Therefore availing scientifically sound data on the aforementioned gaps will have paramount importance for evaluation of the program and there is no any study in Hawassa town related to utilization of PMTCT service, referral linkage to chronic ART care.

2. LITRATURE REVIEW

2.1. Overview of PMTCT

Mother-to-child transmission is the main way children become infected with human immune deficiency virus (HIV) worldwide. To date, the primary approach to the prevention of mother-to-child transmission (PMTCT) has been to identify HIV-infected pregnant women by voluntary counseling and testing (VCT) for HIV and then provide antiretroviral (ARV) drug prophylaxis to them during delivery and then to their newborn infants.

Mother to child transmission of HIV occurs in utero, during labor and through breastfeeding. The greatest risk of transmission occurs during labor where 10-20% infections occurs .Without interventions, 5%-20% of HIV infection in infants born of HIV mothers is attributed to breastfeeding. Infection through breastfeeding depends on the health status of the mother, the duration of breastfeeding and the condition of the breast (5). The risk of transmission is two times high in newly infected mothers than previously infected mothers before or during pregnancy.

Prevention of mother to child transmission strategy as a key entry point in order to expand coverage and deliver simple as well as effective PMTCT interventions in all settings even with limited capacity(5). Ethiopia, has adopted the WHO/UNICEF/UNAIDS 4-pronged Prevention of Mother to Child Transmission of HIV those are primary prevention women not to be infected, preventing unintended pregnancy among HIV infected women, preventing HIV transmission from HIV infected mother to infant and care and support for HIV infected mothers, children and families (5,8). Whereas, owing to numerous factors, awareness of mother-to- child transmission of HIV is generally low, the uptake of PMTCT services is limited and only a small proportion of HIV-infected pregnant women actually benefit from PMTCT services (8).

2.2 Factors contribute utilization of PMTCT service.

2.2.1. Socio -demographic

Socio-demographic barriers of the women are found to be one of influencing factor to utilize PMTCT service. Low educational status and lack of information about PMTCT is believed to hinder many pregnant women from seeking PMTCT services (9). A facility based study conducted in the western part of Amhara region in Ethiopia in the year 2007 reported that from total number of 452 pregnant women who had undergone voluntary counseling for HIV testing, 97.6% were tested for HIV and 274 (94.8%) of those who were tested received the test result. According to this study of Amhara region, education was positively associated with acceptance of ANC counseling (AOR (95% CI) for formal schooling Vs non- formal schooling =3.67 (1.56, 8.61) while being a rural woman and being a farmer were associated with less likelihood of undergoing HIV counseling in ANC [AOR (95% C.I.)= 0.22 (0.14, 0.35) and 0.44 (0.22, 0.98] respectively) (10).

Another study conducted in Sudan showed that rural women are less likely to utilize PMTCT service and those who have formal schooling were more likely to utilize PMTCT service (11). In India it was also shown that VCT acceptance was higher among better educated, married, with higher income women and among women whose husbands live at home (12). Rural women had a higher tendency to think that they should consult their husbands before testing, with borderline statistical significance (72% vs. 64% p = 0.09)(13).

The study conducted in Gambella region in Ethiopia showed that lower educational level was found to have a positive association with refusal of HIV testing (14). The other study conducted in Nigeria showed that higher level of education was associated with decreased acceptance of HIV testing (15). The study conducted in Hawasa showed that having more than one antenatal visits (OR 2.1, 95% CI 0.9-5.1) (16). The study conducted in Dire Dawa showed that Women who have attended two or more antenatal follow ups were 2.5 times more likely to be tested than those who had less visits (17).

2.2.2. HIV/AIDS related behavior, stigma & discrimination

Behavior, stigma and discrimination related to HIV/AIDS also have some contribution on low uptake of PMTCT service utilization and referral linkage. A study conducted in Blantyre and Balaka area in Malawi reported that there was low uptake of PMTCT services by mothers (18).

The main reason for low uptake include stigma and discrimination, opposition from male partners, women's fear of disclosure of HIV status and cost of infant feeds and the study established big knowledge gaps among PMTCT providers .

Another one year cohort study in Malawi reported that from 3136 pregnant women attending in ANC clinic 96% were pre-test counseled and 95% underwent HIV testing as well as post-test counseling(19).Couple counseling has been shown to improve PMTCT services and interventions. Male partner involvement in the prevention of mother-to-child transmission (PMTCT) services reduced the risks of vertical transmission and infant mortality by more than 40% compared to no involvement (20).Some women however, needed consent from their husband to take HIV testing suggesting the need for partner involvement in the PMTCT programs (21).

Male opposition, lack of male involvement and stigma are affecting the women's participation in PMTCT (22). Gender power imbalance put many women in subordinate, dependent and passive position and incapacitates most women not to make independent decision to test without partner consent which in turn affect the PMTCT service utilization (21,22).The other study conducted in Cambodia, where a study conducted in the context of the country's national PMTCT program showed a strong link between HIV testing acceptance rates among women and attendance at a pre-test counseling session with a male partner(23).

Evidence suggested that HIV testing increases the women's vulnerability to violence especially among women who tested positive involving men in PMTCT programs could help to ensure their role in decision making and confer mutual understanding between couples. The other study conducted a PMTCT program in Abidjan, Côte d'Ivoire; the proportion of male partners tested for HIV was only 23.1% among partners of HIV-positive women and 14.8% among partners of HIV-negative women (24).The study conducted in uganda showed that Partner participation in VCT and couple counseling is found to increase success of PMTCT programs (25). In a cohort of 799 HIV-positive pregnant women in Bangkok, Thailand, 22.6% still had not disclosed their HIV status to their partners by four months after the initial HIV test (26).

The study conducted in Uganda shows that Women who thought their husbands would approve were almost six times more likely to report a willingness to be tested compared to those who thought their husbands would not approve (OR= 5.6, 95% CI 2.8, 11.2) (27).

2.2.3. Knowledge, perceptions and attitudes towards HIV/AIDS

Women who had better knowledge of VCT and MTCT and women with at least two ANC visit had significantly higher VCT acceptance than their counterparts (13,17,32). Among the mothers (n=876), 38.8% had sufficient knowledge about MTCT (during pregnancy, labor, breastfeeding), 41.8% had sufficient knowledge about PMTCT, 30.5% had sufficient knowledge about infant feeding options recommended to HIV positive women, 62.4% had a favorable attitude towards VCT, 4.7% had a favorable attitude towards the feeding options, 84.5% visited health institutions for antenatal care and 35.7% used the VCT service during their last pregnancy (28).

Most of the health workers (in-depth interview participants) provided directive advice about the infant feeding options, and most didn't include the options heat treated expressed breast milk and HIV negative wet nurse (28). The study conducted in Addis Ababa Ethiopia shows that women who had better knowledge of VCT and MTCT had significant higher VCT acceptance than their counter parts (15).

The study conducted in Togo in 2010 shows that the higher percentage of women believed that contamination during pregnancy increased the risk of HIV transmission to the child (30). Correct knowledge with respect to transmission of HIV during labor and that it can be prevented by chemotherapy were associated with higher likely hood of using PMTCT services and the main barriers for utilization of PMTCT services identified were incorrect perceptions regarding HIV/AIDS and stigma by husband, family and community (10).

The other study conducted in the Eastern Cape, South Africa in March 2005 a study shows that sample of 186 pregnant women (29.6% HIV positive and 70.4% HIV negative) in four clinics in a rural district shows that regarding infrastructure, most women lacked transport to and communication with a health facility and more than 90% felt that they had received adequate information on most of the components of the PMTCT programme and about 90% of the women were satisfied with the HIV counseling they had received and most women (54%)

felt they would receive support during their pregnancy mainly from their mothers and/or husband /partner (50%). Community attitudes towards people living with HIV/AIDS were mostly perceived as negative (30).

Another study conducted Awassa health center in 2006 shows that the PMTCT services utilization was 9.8% (37/377) among the survey participants'. PMTCT service utilization was independently associated with being attending antenatal care in Awassa health center (OR 4.6, 95% CI 1.7 -12.5), being aware of the availability of NVP for PMTCT (OR 4.3, 95% CI 1.4-12.8) (16).

Other study conducted in Nazareth/Adama Ethiopia based on the response of trained participant mentioned there were weaknesses on time allocation for general PMTCT service provision training, infection prevention, and PMTCT counseling (i.e. breast-feeding, nutrition and family planning) and weakness also there on practical attachment to relate the theoretical teaching with practical one(31).

2.2.4 Referral linkage and care for HIV positive pregnant.

Linkage to health facilities can provide the resources to help women who are HIV-infected and their families cope with the isolation, social stigma, and emotional pressures that often accompany a diagnosis of HIV. They also may provide women infected with HIV a way to become involved in voluntary or paid HIV related work (32).A study conducted in Mwanza, Tanzania show that out of 310 cohort participants tested for HIV during pregnancy, 51% had received an HIV clinic referral pre-delivery and only 32% of 244 women followed to four months post-partum had attended an HIV clinic and been assessed for HAART eligibility. Non- attendance for HIV care was independently associated with fewer antenatal visits, poor PMTCT prophylaxis compliance, and non-disclosure of HIV status (33). The study conducted in Zimbabwe showed that of the 147 positive women 95(65%) registered in ART programme. However, documentation of the referral was noted only 16%. Of the 95 registered women 35 receiving ART; 17(18%) had not undergone CD4 testing (34).

In general the result of different studies have shown that the utilization of PMTCT services and referral linkages to chronic ART care for those HIV positive pregnant women has improved since the beginning of HAART. But despite this, less attention is given for meeting the integration of PMTCT service to different health service care as a strategy to the general HIV

prevention. Hence, occurrence of underutilization of PMTCT service is significant among pregnant women. It is also our expectation that the findings generated from this study will contribute to understand influencing factor for utilization of PMTCT service and referral linkage among HIV positive women and be useful in program designing to address health care needs of HIV positive women. Hence, this study assessed influencing factor for utilization of PMTCT service and referral linkage among HIV positive women.

3. OBJECTIVES

3.1 General objective:

The general objective of the study was to assess factors that influence utilization at PMTCT service and referral linkage to chronic ART care of HIV positive pregnant women.

3.2 Specific objectives

Specifically the study has tried:

1. To assess utilization of PMTCT services.

2. To examine factors influencing acceptance of counseling and testing among pregnant women.

3. To assess referral linkage to chronic ART care after knowing HIV status.

4. SUBJECTS AND METHODS

4.1. Study area

This study was conducted at the Hawassa referral hospital, Hadare hospital, Hadare health center, Alamora health center, Hawassa millennium health center and Tula health center which are found in Hawassa, SNNPR, located about 275 km south of Addis Ababa. The study was carried out from October 2012 to May 2013. Based on the 2005E.c national census, Hawassa has a total population of 328,808, of whom 168,886 are men and 159,397women; with an area of 157.21 square kilometers. Hawassa has 5 hospitals (2 governmental and 3 non-governmental) and 7 public health centers,6 private higher clinic,20 private medium clinic and 23 different private clinic. The PMTCT Program was first introduced in the region in 2003/4 in Dilla hospital by the Hareg project. In response to the national rapid scale up plan, more hospitals and health centers were selected to offer PMTCT services. According to FMOH 2008/09 Administrative report the increase in health facilities have been from 801 to 1823 for (VCT) HCT, from 93 to 1023 for PMTCT and from 168 to 511 for ART and in 2007 SNNPR health bureau report 91 health facilities were offering PMTCT service in the region.

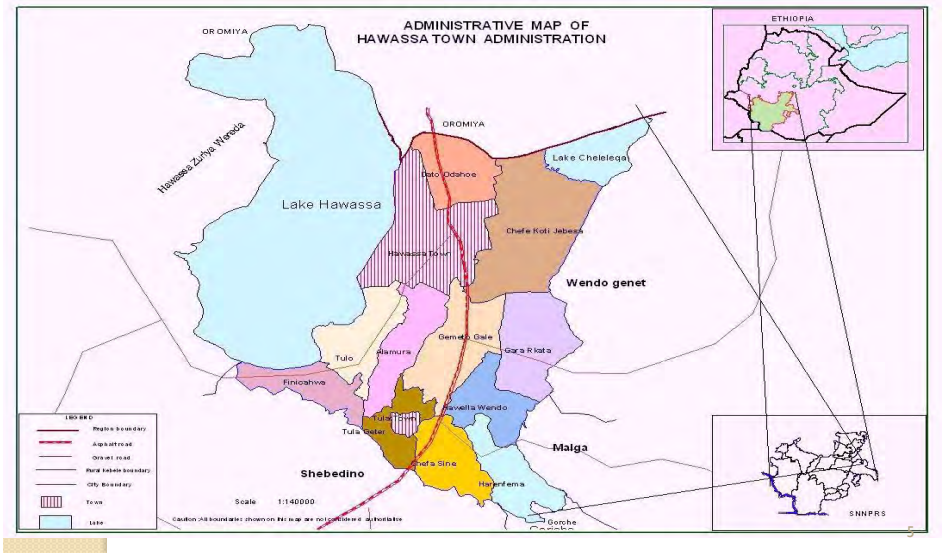

Figure 1-map of Hawassa town

4.2 Study design

Health facility-based cross-sectional study design supplemented by qualitative method was employed for this study. Interviewer administered questionnaire was administered for selected pregnant women, while in-depth interview (IDIs) was used for the qualitative study.

4.3. Source population: All pregnant women in the Hawassa town were the source population. Also providers and MSG, who were working on ANC clinic, were included as source population.

4.4. Study population: Consists of all pregnant women attending public health facility for ANC follow up.

4.5. Sample population : Pregnant women attending ANC follow care in the public health facility and included in the study based on the inclusion criteria was the sample population.

4.6. Sample size determination

Sample size for the quantitative study

Based on the study conducted in Hawassa health center 9.8% of pregnant women has utilized PMTCT in health center.

Therefore, sample size required for the study was estimated based on the following assumptions:

- Type I error (α) probability of 5% (two-tailed test), 95% confidence level
- Margin of error 2.5%
- The sample size was determined using a single population proportion and p=9.8%

Where

$$n = \frac{(z\ \alpha/2)2p\ (1-p)}{d2}$$

n=548 and with 10% non-response rate 603

Sample Size of the qualitative study

The quantitative study was complemented using IDIs. The purpose of the qualitative study was to collect information to better understand PMTCT service utilization and referral linkage to chronic ART service

for HIV positive pregnant women and help to fill the gaps inadequately addressed by the quantitative study. In-depth interview was conducted by Health workers delivering counseling for PMTCT in those health facilities (2 from the health center and 2 from hospitals) and 4 member of mother support group (3 from the health center and 1 from hospital).

4.7. Sampling procedures

There were a total of 4 public health centers and 2 public hospitals in Hwassa town those delivered PMTCT service. All of these health facilities were included in the study. Calculated sample size was proportionally allocated to each hospitals and health center considering the total number of pregnant women attending the facilities during the previous three months (June –August 2012) prior to the beginning of the study in November. A systematic sampling procedure employed and every two pregnant women visiting ANC of each health facility for ANC follow up was invited to participate in this study. Qualitative study participants were selected purposefully to get in-depth information about factors influencing utilization of PMTCT service and referral linkage to chronic ART care after knowing HIV status and conducted by Health workers delivering counseling for PMTCT in those health facilities (2 from the health center and 2 from hospitals) and 4 member of mother support group (3 from the health center and 1 from the hospital).

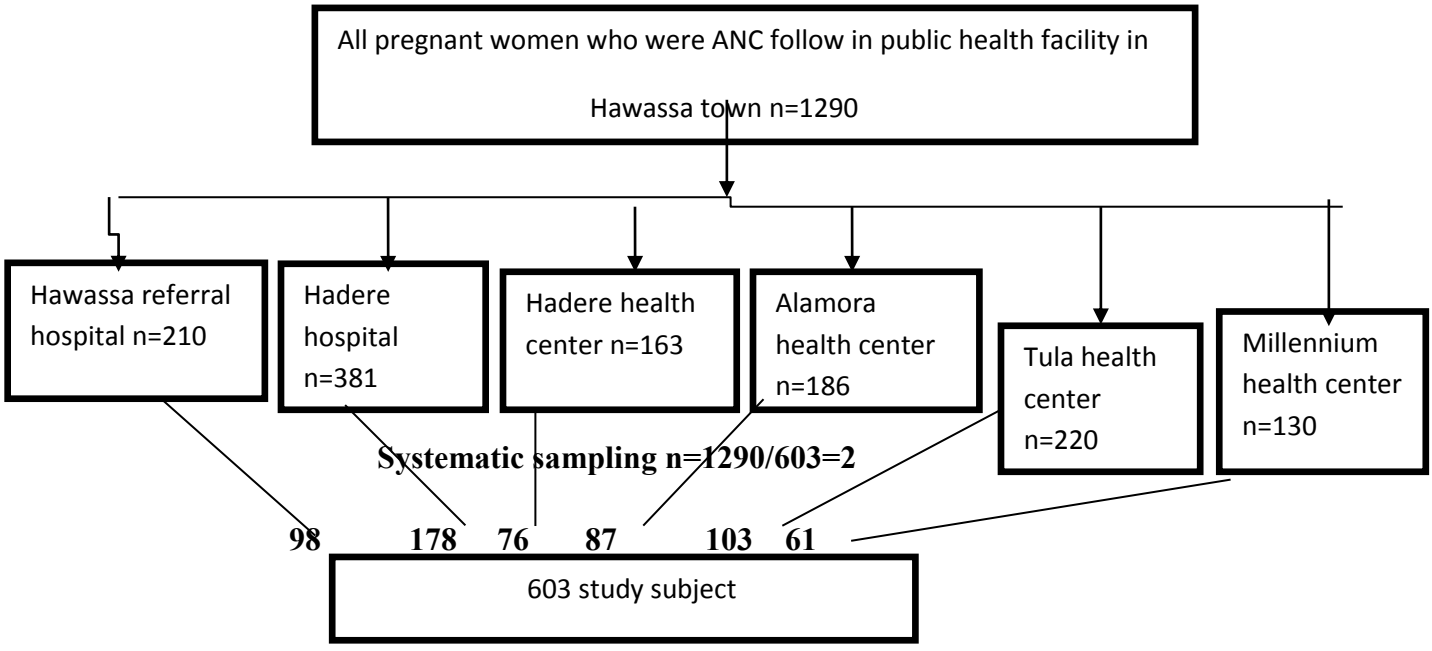

Figure 2: schematic presentation of sampling procedure used in the study in Hawassa, southern Ethiopia 2013.

4.8. Inclusion and exclusion criteria

Inclusion criteria:

- Every pregnant woman who have at least one ANC visit during the study time in the Tula health centre, Hadare health centre, Alamora health centre, Hawassa millennium health centre, Hadare hospital, and Hawassa referral hospital was eligible.
- Health professional and MSG stay more than 3 months on the same service delivery point working at ANC clinic.

Exclusion criteria:

- Pregnant women who were in labour and had emergency sign of pregnancy during the study period was excluded from the study.
- Refusal to participate
- Health professionals not involved in direct care of ANC, stay less than 3 months and refused to participate.

4.9. Data collection

Quantitative data collection

A structured questionnaire was initially adapted from (WHO and publish a thesis in Ethiopia) in English and then translated into Amharic for data collection. The questionnaire was gathering data on the following areas: 1) Socio-demographic characteristics; 2) knowledge, perception and towards HIV/AIDS 3) HIV/AIDS related behaviors and beliefs 4) HIV/AIDS related behavior, stigma and discrimination 5) Related to referral linkage and care for those with HIV positive pregnant women .The questionnaire was back translated into English to ensure its consistency. Finally, pre-test was conducted on 5% of sample size in Morocho health center that is found near to Hawassa town to ensure its suitability for the study. Based on the findings of the pre-testing, appropriate amendments and revisions were made before the final administration of the questionnaire for actual data collection. One data collector (nurse) from each health facility was trained for two days on the data collection instrument, interview techniques and recruitment of the study subjects. The trained data collector was administering the questionnaire after obtaining an informed consent (verbal) from selected pregnant women. The data collectors were fluent in

writing, reading, and speaking in Amharic. The principal investigator was reviewing the questionnaires on a daily basis in the field to ensure completeness and consistency.

Qualitative data collection

IDIs was conducted by the principal investigator and had carried out using a discussion and in-depth guides with Health workers delivering counseling for PMTCT in those health facilities (2 from the health center and 2 from hospitals) and 4 member of mother support group (3 from the health center and 1from the hospital) and With the consent of the participants the interviews were audio taped. Socio-demographic characteristics of qualitative participants such as age, occupation, and education was also documented.

4.10. Data quality control

The quantitative questionnaire and qualitative guides were pre-tested in a purposefully in Morocho health center near to Hwassa town. There were discussions of any kind of problem the data collectors had faced during the data collection process. The data was checked for completeness, consistency and soundness by the principal investigator. The collected data had manually checked and coded for completeness before data entry.

4.11. Data processing and analysis

Quantitative data entry, data cleaning and coding was performed using the Epi info software and analyzed using SPSS version 17. Development of data entry templates, data cleaning, processing, analysis and the overall management of the data was done by the principal investigator. Codebook, analysis and tabulation plans have developed in advance. To describe the study population in relation to relevant variables, frequencies and summary statistics was used. The analysis was bivariate and multivariate logistic regression after adjustment for potential confounding variables. Associations between dependent and independent variables were assessed and presented using odds ratios and 95% confidence intervals.

Qualitative data were transcribed and translated at the end of each discussion. Qualitative data analysis had done based on the thematic approach that involves organizing concepts from the collected information into meaningful categories. A coding dictionary was developed as part of

the data analysis. The data analysis will include triangulation of data across groups (IDIs) and compliment/explain the quantitative results.

4.12. Variables

Dependent variable

- Utilization of Voluntary counseling and testing by pregnant women following ANC.

Independent variables

- The socio-demographic characteristics: (Age, residence, educational status, marital status, occupational status of women)
- Knowledge, attitudes, perceptions, beliefs and behaviors related to HIV/AIDS such as MTCT and PMTCT, linkage and care , attitude and motivation of health worker, Stigma of various degrees, likely reactions of male partner to wife being HIV infected, the perceived role of male partner in the commitment for PMTCT of HIV service utilization. The availability of other chronic care service in the community and availability of trained manpower, turnover staff, referral linkage system of facility and distance from resident to clinic

4.13. Operational definitions

Utilization of PMTCT service: Those pregnant women who are using counseling and testing for further utilization of other service like ARV prophylaxis and other ART chronic service.

Referral-Linkage: After getting the HIV positive result during pregnancy linking to other ART Chronic service.

Mother support groups are volunteers and HIV positive women giving adherence counseling for HIV positive pregnant women in the public facility.

Chronic ART care: the place where HIV positive people can get service for the next lifetime.

4.14. Ethical considerations

The proposal was reviewed and approved by the research and the ethics committee of the School of Public Health and the Institutional Review Board (IRB) of the College of Health Sciences at Addis Ababa University. Permission to undertake this study was obtained from every relevant authority at all levels (Regional and Zonal Health Offices).To facilitate and encourage cooperation, official letters from the School of Public Health was written to SNNPR Health Bureau, and then to District health office of Hawassa town, Tula heath center, Alamora health center, Hawassa millennium health center, Hadare heath center, Hawassa referral hospital and Hadare general hospital. Before starting the study, the aim of the study was explained to the zonal Health Offices and the Health facilities. An informed consent form was made available to the study participants. The informed consent shall include essential information such as statements of potential risk, benefits, likely breaches of confidentiality and how this was curtailed. The consent form was in line with the ethical principle of "autonomy" by including statements that give participants the right to decline participation in the study and makes clear that their decision to participate or not to participate had no effect on their ability and right to receive services at the health center. Data collection instruments were not included names, address or any other identifying information. During the informed consent process, interviewers were explaining that the data collected has been shared with anyone outsides research team to ensure confidentiality. The interview of each study participant was taken place in a separate room during an exit time.

4.15. Dissemination of the study results

The thesis will be presented to the School of Public Health as partial fulfillments of the requirements for the Master's Degree in Public Health. The result of the study will be communicated to the study Health facilities, the Zone Health Department and SNNPR Health Bureau and finally to the Federal Ministry of Health. Findings will be presented at workshops, seminars and conferences of health professional associations. Finally, the study findings will be published in peer reviewed reputable journals.

5. RESULTS

Section1-Socio-demographic characteristics

A total number of 588 pregnant women were included in the study with a 97.5% response rate. The age of pregnant women included in this study ranged between 15 and 40 years with a mean age (+SD) of 24.74 (+4.34) and the median age was 25 years. The majority of respondents were married (n=578, 98.3%), housewife (n=338, 57.5%), urban (n=491, 83.5%) and protestant by religion (n=341, 58%). With regards to educational level 75.5% of the pregnant women (n=444) have formal education while the remaining have non-formal education and three hundred seventeen (53.9%) pregnant women attending ANC in health center (see table 1).

A large proportion of the pregnant women (80.4%) had two or less number of live children. With regards to access to health service (n=437, 74.3%) of the pregnant women were satisfied with access to health service. With regards to number of ANC visit during current pregnancy (n=374, 63.6%) of pregnant women had two or more ANC visit during current pregnancy. Three hundred thirteen (53 %%) of the pregnant women had moderately enough money to meet their needs (see table one).

Table1: Socio-demographic characteristics of PMTCT service utilizers, in Hawassa town, southern Ethiopia in April 2013.

Characteristics		Frequency	percentage
Age	15-24	271	46
	+25	317	54
Marital status	Married	578	98.3
	Others	10	1.7
Religion	Orthodox	163	27.7
	Islam	53	9
	Catholic	31	5.3
	Protestant	341	58
Educational level	Non formal education	144	24.5
	Formal education	444	75.5
Occupation	Housewife	338	57.5
	Government	111	18.9
	Others	139	23.6
Residence address			
	Urban	491	83.5
	Rural	97	16.5

Health service			
	Hospital	271	46.1
	Health center	317	53.9
Access to health service			
	Dissatisfied	151	25.7
	Satisfied	437	74.3
Number of ANC visit	One	214	36.4
	Two or more	374	63.6
Number of alive children			
	Two or less	473	80.4
	Three or more	115	19.6
Enough money to meet your needs			
	A little	155	26.4
	Moderately	313	53
	Mostly	120	20.4

Factors influencing utilization of PMTCT service: Socio- demographic

Among the socio-demographic factor educational level is influencing the utilization of PMTCT service. The formal educational level was found to have statistical significant association with utilization of PMTCT service. The odds of utilization of PMTCT service among formal education 2.29 times more likely to utilize PMTCT service than non-formal education (COR=2.29, 95% CI=1.30, 4.04). The pregnant women who lived at urban have statistical significant association with utilization of PMTCT service. The odds of utilization of PMTCT service among pregnant women who lived at urban 1.76 times more likely to utilize PMTCT

service than pregnant women who lived at rural (COR=1.76, 95% CI=0.92, 3.36). The odds of utilizing of PMTCT service among pregnant women who had ANC visit at hospital during current pregnancy was about 1.52 times more likely to utilize PMTCT service than women who had ANC visit at health center during current pregnancy(COR=1.52,95% CI= 0.87, 2.68). The odds of utilizing of PMTCT service among women who had two or more ANC visit during current pregnancy was about 3 times more likely to utilize PMTCT service than women who had one ANC visit during current pregnancy after controlling the effect of other (COR=2.88,95% CI= 1.65, 5.04), AOR=2.99% CI=1.44, 6.23**)** (See table 2 and 5). 28 years old female provider mentioned that, *" Attending on counseling and testing at the ANC clinic is a benefit of themselves, we educate for all pregnant women who came to the ANC clinic for follow up during the first visit in general for HIV/PMTCT then on the next visit of ANC follow up we counsel them to attend the VCT service but there are women were accepting the VCT service during the first visit and there were also women who decline VCT service during the first visit, for those not used this chance we counsel them to come with a partner."*

Table2: Bivariate analysis with utilization of PMTCT service: Socio-demographic

Characteristics	utilized PMTCT Service	not utilized PMTCT Service	COR (95%CI)
Age			
15-24	248	23	1
+25	283	34	0.77(0.44, 1.35)
Educational level			
Non formal education	121	23	1
Formal education	410	34	2.29(1.30, 4.04)*
Residence address			

Rural	83	14	1
Urban	448	43	1.76(0.92, 3.36)
Health facility			
Heath center	281	36	1
Hospital	250	21	1.52(0.87, 2.69)
Access to health service			
Dissatisfied	137	14	1
Satisfied	394	43	0.94(0.49, 1.76)
Number of ANC visit			
One	180	34	1
Two or more	351	23	2.88(1.65, 5.04)*
Number of alive children			
Two or less	428	45	1
Three or more	103	12	0.90(0.46, 1.77)

Knowledge, attitude, stigma, discrimination, behaviors and other related variable characteristics of PMTCT service utilizers, in Hawassa town, southern Ethiopia in April 2013.

Five hundred sixty three (95.7%) of the pregnant women had heard mother to child transmission of HIV before, many of them had multiple source of awareness namely, traditional ceremony like “idir” (n=122, 21.7%), public media (n=344, 61.1%), health institution (n=404, 71.8%), friends (n=35, 6.2%) and relatives 22(3.9%) (See table 3).

Two hundred two (34.3%) of the pregnant women believed that HIV is a curse sent from GOD. With regards of transmission of HIV from a mother living with HIV/AIDS to the fetus

(n= 373, 63.4%), (n=397, 67.5%) and (n=489, 83.2%) had correct knowledge that MTCT of HIV occurs during pregnancies, labor and delivery, breastfeeding respectively (See table 3).

Two hundred eighty eight (49%) of the pregnant women had information about PMTCT during current pregnancy by ANC provider. Four hundred four (68.7%) of the pregnant women had heard the availability of medication for the prevention of mother to child transmission (See table 3).

Four hundred thirty eight (74.5%) partner of the pregnant women had ever tested for HIV. Two hundred twenty two (37.8%) of the pregnant women had discussed about MTCT of HIV and the possible outcomes of the current pregnancy with a partner. About four hundred eighty one (81.8%) of the pregnant women believed that their husbands support couple testing. Five hundred forty eight (93.2%) of the pregnant women supported the idea of every pregnant should be tested for HIV (See table 3).

Five hundred thirteen (87.2%) of the pregnant women were support the idea of necessary to have HIV testing in each pregnancy. Three hundred fifty three (60%) of the pregnant women were mentioned stop breastfeeding and provide formula feeding as option of infant feeding for those infant born to HIV positive mother (See table 3).

Table3: Knowledge, attitude, stigma, discrimination, behaviors and other related variable characteristics of PMTCT service utilizers, in Hawassa town, southern Ethiopia in April 2013.

Characteristics		frequency	percentage
Heard about MTCT	Yes	563	95.7
	No	25	4.25
Source of information n=563			
Health institution	Yes	404	71.8
	No	159	28.2

Public media (TV, radio and newspaper)	Yes	344	61.1
	No	219	38.9
Traditional ceremony (idir, coffee ceremony etc.)	Yes	122	21.7
	No	441	78.3
Relatives	Yes	22	3.9
	No	541	96.1
Friends	Yes	35	6.2
	No	528	93.8
HIV a curse sent from GOD	Yes	202	34.3
	No	386	65.6
HIV positive women infect the babies during pregnancy			
	Yes	373	63.4
	No	215	36.6
HIV positive women infect the babies during labour and delivery			
	Yes	397	67.5
	No	191	32.5
HIV positive women infect the babies during breastfeeding			
	Yes	489	83.2
	No	99	16.8

During current pregnancy ever told about prevention message about MTCT

Yes	288	49
No	300	51

Availability of medication for prevention mother to child transmission

Yes	404	68.7
No	184	31.3

Support every pregnant should be tested

Yes	548	93.2
No	40	6.8

Partner ever tested for HIV

Yes	438	74.5
No	150	25.5

Discuss with partner about MTCT of HIV and the possible outcome of pregnancy

Yes	222	37.8
No	366	62.2

View of husband regarding HIV screening

Support couple testing	538	91.5
Others	50	8.5

Necessary to have HIV testing in each pregnancy

Yes	513	87.2
No	75	12.8

Option for feeding an infant born to HIV positive mother.

Stop breastfeeding and provide formula food	353	60
Continue breast-feeding exclusively until six months	72	12.1
Mix both breast as well as supplementary feeding	40	6.8
Provide the new born with whatever is available in the house	17	2.9
Not sure	106	18

Factors Influencing Utilization of PMTCT Service: Knowledge, attitude, stigma, discrimination, behaviors and other related variable

The pregnant women didn't believe that HIV is a curse sent from GOD 2.32 times more likely to utilized PMTCT service than those who believe that HIV is a curse sent from GOD (COR=2.32 ,95% CI =1.34, 4.02). 25 years female ANC provider mentioned that *"Some pregnant women believe that I have no virus in my blood this is a curse sent from GOD and it is just like dander to them then we try to counsel them to improve their awareness but it is a first believe for them so it is difficult for us to change this believe.* "Those women who had correct knowledge that MTCT of HIV occurs during pregnancy, labor and delivery ,breastfeeding were 4.00,4.94, 3.70 times more likely to utilized PMTCT service than to their counter parts(COR=4.00,95%CI=2.24,7.14),(COR=4.94,95%CI=2.76,8.84)and(COR=3.71,95%CI=2.06, 6.65) respectively(See table 4 and 5).

A 25 years female ANC provider mentioned that. *"Pregnant women should take voluntary counseling and testing during ANC visit but most of the time pregnant women didn't use the PMTCT service due to lack of knowledge on benefit of PMTCT service, so they didn't use this chance*."

The women who had heard the availability of medication for the prevention of mother to child transmission of HIV were 2.72 times more likely to utilized PMTCT service than those women who didn't heard the availability of medication for the prevention of mother to child transmission of HIV (COR=2.72,95% CI= 1.56, 4.73).The women who were supporting the idea of every pregnant should be tested for HIV 9.86 times more likely to utilized PMTCT service than their counterpart after controlling the effect of other variables (COR=13.81, 95% CI=6.83, 27.92);

AOR=9.86, 95% CI=3.67, 26.51).Partner of the women ever tested for HIV were 5.29 times more likely to utilized PMTCT service than their counterpart (COR=5.29,95% CI= (2.99, 9.33). (See table 4 and 5). 28years female provider mentioned that *"The first we give an invitation card for pregnant women to bring their partner to utilize counseling and testing service, then those pregnant women who took this card, try to give the information to their partner to be tested."* The pregnant women believed that their husbands support couple testing 16 times more likely to utilized PMTCT service than their counterpart after controlling the effect of other variables (COR=25.15,95% CI= (12.76, 49.57); AOR=16.16,95% CI= (6.58, 39.67)

Table 4: Bivariate analysis with utilization of PMTCT Service: Knowledge, attitude, stigma, discrimination, behaviors and other related variable of PMTCT service utilizers, in Hawassa town, southern Ethiopia in April 2013.

Characteristics	utilized PMTCT	not utilized PMTCT	COR (95%CI)
HIV a curse sent from GOD			
Yes	172	30	1
No	359	27	2.32(1.34, 4.02)
HIV positive women infect the babies during pregnancy			
Yes	354	19	4.00(2.24, 7.14)
No	177	38	1
HIV positive women infect the babies during labor and delivery			
Yes	378	19	4.94(2.76, 8.84)
No	153	38	1

HIV positive women infect the babies during breastfeeding			
Yes	454	35	3.71(2.06, 6.65)
No	77	22	1
Availability of medication for prevention mother to child transmission			
Yes	377	27	2.72(1.56, 4.73)
No	154	30	1
Support every pregnant should be tested			
Yes	511	37	13.81(6.83, 27.92)
No	20	20	1
Partner ever tested for HIV			
Yes	415	23	5.29(2.99, 9.33)
No	116	34	1
View of husband regarding HIV screening			
Support couple testing	510	28	25.15(12.76, 49.57)
Others	21	29	1

Table 5: Multivariate analysis of utilization of PMTCT service, in Hawassa town, southern Ethiopia in April 2013.

Characteristics	utilized PMTCT	not utilized PMTCT	COR (95%CI)	AOR (95%CI)
Educational level				
Non formal education	121	23	1	1
Formal education	410	34	2.29(1.30, 4.04)	1.25(0.54, 2.88)
Residence address				
Rural	83	14	1	1
Urban	448	43	1.76(0.92, 3.36)	0.81(0.32, 2.05)
Health facility				
Health center	281	36	1	1
Hospital	250	21	1.52(0.87, 2.68)	1.95(0.86, 4.40)
Number of ANC				
One	180	34	1	1
Two or more	351	23	2.88(1.65, 5.04)	**2.99(1.44, 6.23)***
HIV curse sent from God				
Yes	172	30	1	1
No	359	27	2.32(1.34, 4.02)	2.01(0.99, 4.10)
HIV positive women infect the babies during pregnancy				
Yes	354	19	4.00(2.24, 7.14)	1.22(0.52, 2.88)
No	177	38	1	1

HIV positive women infect the babies during labor and delivery				
Yes	378	19	4.94(2.76, 8.84)	1.61(0.69, 3.77)
No	153	38	1	1
HIV positive women infect the babies during breastfeeding				
Yes	454	35	3.71(2.06, 6.65)	1.31(0.54, 3.17)
No	77	22	1	1
Availability of medication for prevention mother to child transmission				
Yes	377	27	2.72(1.56, 4.73)	0.87(0.40, 1.89)
No	154	30	1	1
Support every pregnant should be tested				
Yes	511	37	13.81(6.83, 27.92)	**9.86(3.67, 26.51)***
No	20	20	1	1
Partner tested for HIV				
Yes	415	23	5.29(2.99, 9.33)	1.59(0.72, 3.53)
No	116	34	1	1
View of husband				
Couple counseling	510	28	25.15(12.76, 49.57)	**16.0(6.58, 39.67)***
Others	21	29	1	1

Referral linkage to HIV positive pregnant women

Five hundred thirty one (90.3%) of the respondents reported they had undergone voluntary counseling and testing, 531(100%) of those who were counseled tested for HIV, 522(98.67%) of those who were tested received the test result and four hundred ninety nine (95.6%) were negative and twenty three (4.4%) were positive HIV status. Among 23 who has HIV positive status 20 (86.96%) of pregnant women were linked to chronic ART care service and three (13.04%) pregnant women were not linked to chronic ART care service. 25 years female ANC provider declared that *"They are not willing to go to chronic ART care due to fear of stigma and discrimination so they didn't take the medication as well."*

The timing of when HIV positive pregnant women were linked to chronic ART care service eleven (55%) within one month, seven (35%) within one to three months and two (10%) of above three months. Twelve (60%) of HIV positive pregnant women were linked to chronic ART care service with formal referral linkage and eight (40%) of HIV positive pregnant women linked to the service with informal referral linkage. 28 years female provider declared that

"If pregnant women got HIV positive status during current pregnancy, in this facility there was no ART service so based on the current guide line, for example last time i referred positive pregnant women to hospital after starting AZT to check her cd4 and hgb but we have no any network to hospital or we didn't get any feedback from hospital so, after a long time the client told me she didn't get the service because of her husband didn't want her to go hospital."

From twenty three of HIV positive pregnant women fourteen(60.9%) of pregnant women had undergone CD4 testing and nine(39.1%) had not undergone CD4 testing . 27 years female provider mentioned that

"The pregnant women who were positive HIV status according to new guide line she would start prophylaxis at 14wks then after we sent her to check her cd4 and hgb, as we know the prophylaxis for her child but not for her but to have healthy mother before delivery she must check her cd4 count ."

Among twenty of HIV positive pregnant women who linked to the service nine (45%) of starting HAART, seven (35%) started ARV prophylaxis and four (20%) didn't start the medication until the time of the survey. 32 years female MSG at referral hospital mentioned that "*if pregnant women didn't start medication that is due to individual perception previously we have no any information but currently they are lucky but they didn't use this great chance due to their weakness or selfishness*."

Reasons given for not utilized PMTCT service ever or up until the time of survey were low perceived risk of having HIV in 26 (45.6%), the need to consult the husband in 21 (36.8%), fear of discussing the horrible picture of HIV with the counselor in 8 (14%) and 2 (3.5%) Knowing sero-status has no benefit. 32 years female MSG said that *"The first thing were fear of stigma and discrimination this is due to lack of awareness, if pregnant women tested for HIV and become positive, she used this service for the benefit of herself, further for her child and for her family but she didn't see the benefit of the service, she fears getting stigma and discrimination from the community."*

And also 32 years female MSG cited that. *"As we know HIV is horrible picture and the pregnant women came to this hospital for ANC follow up and we give voluntary counseling and testing for pregnant women but if they are not voluntary to test on current visit we counsel them on the next follow up visit until voluntary to test."*

27 years - female ANC provider stated that *"Some of pregnant women didn't get voluntary counseling and testing due to a shortage of trained manpower on PMTCT as well as ART at ANC clinic. Sometimes trained ANC provider may miss some of them due to workload."*

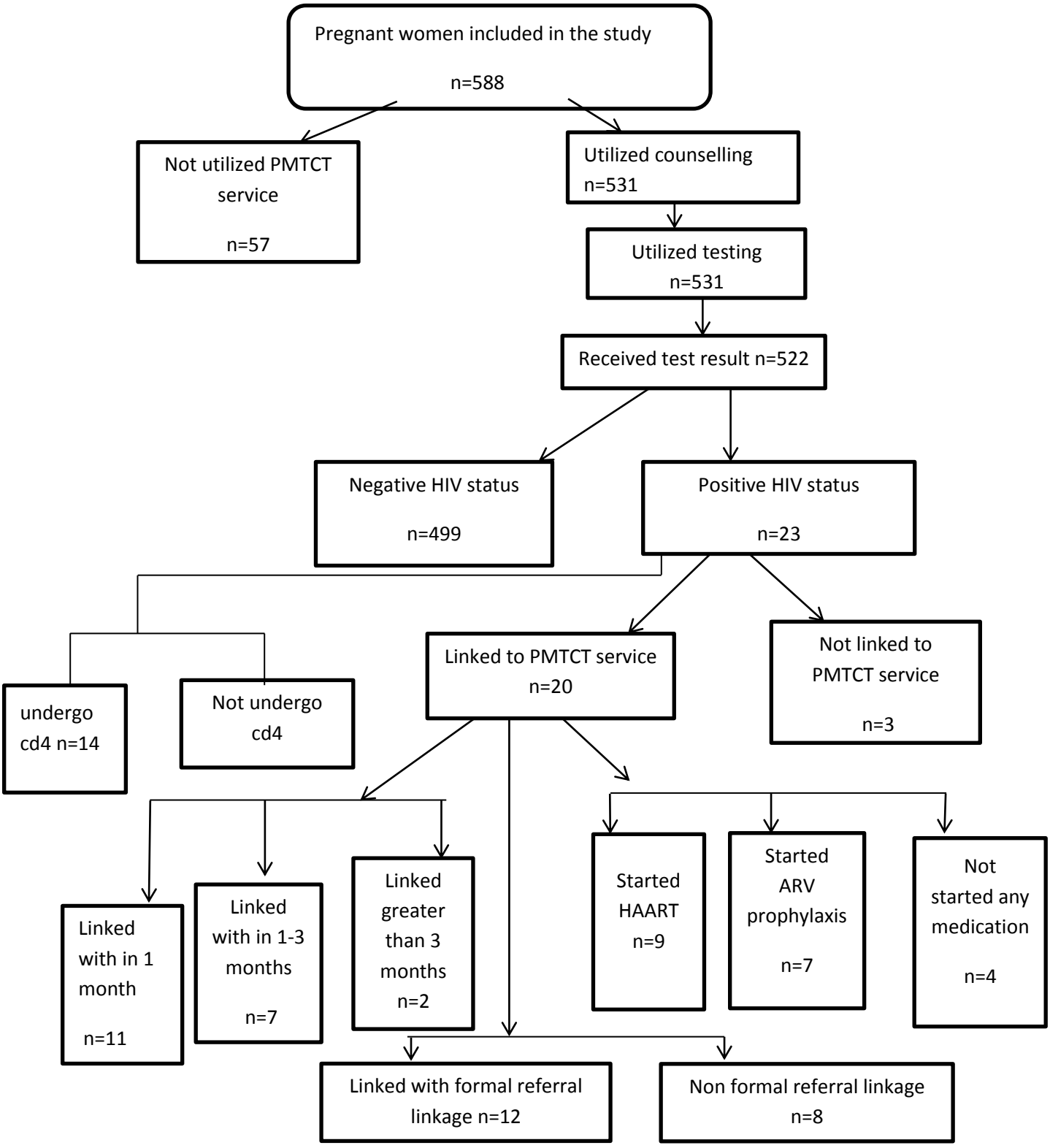

Figure 3: flow chart for utilization of PMTCT service in Hawassa town, southern Ethiopia 2013.

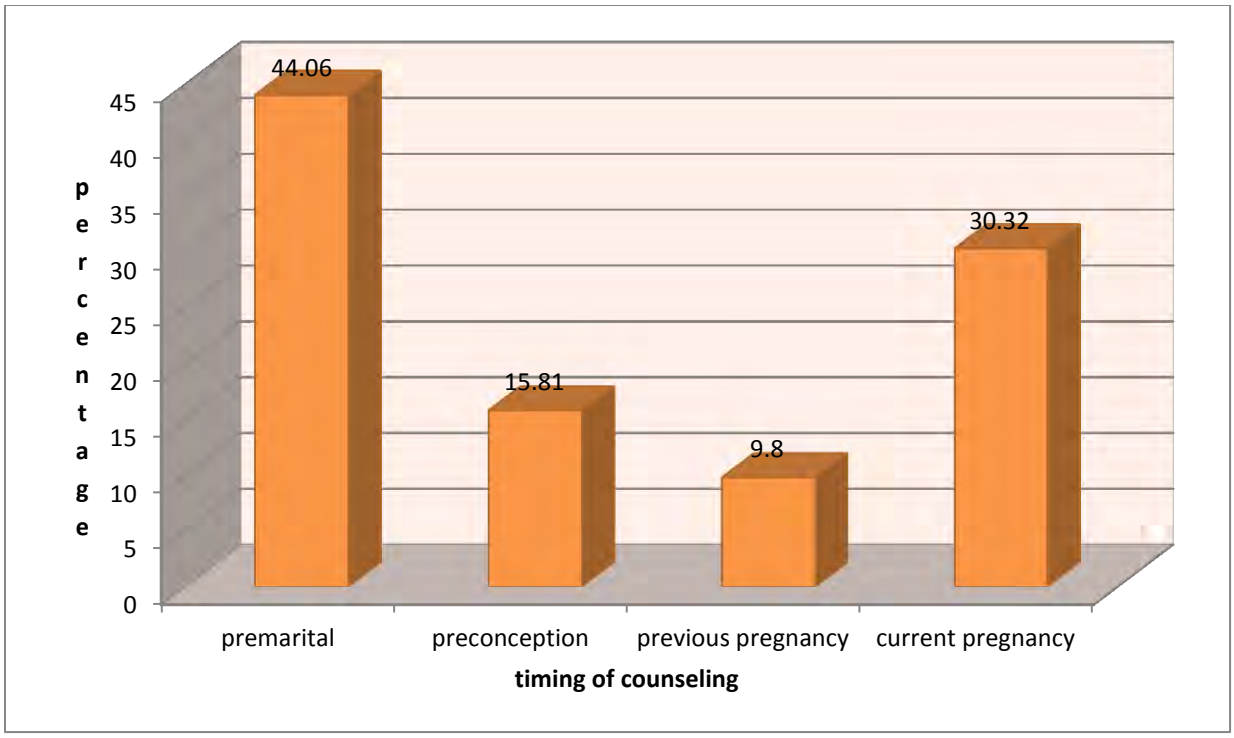

Figure 4: Timing of counseling among pregnant women attending ANC clinic at Hawassa Town, southern Ethiopia 2013.

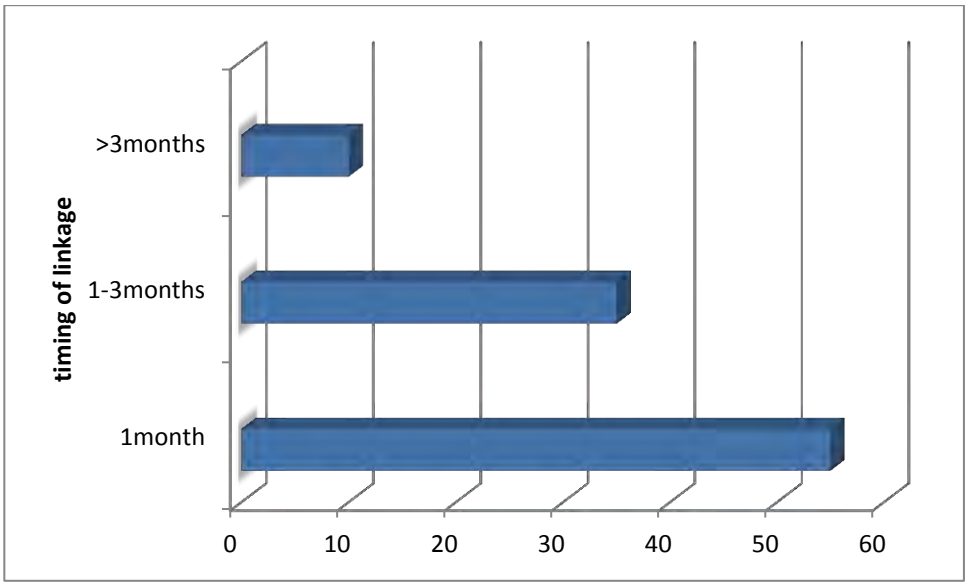

Figure 5: The timing of when HIV positive pregnant women were linked to PMTCT service.

6. DISCUSSION

This study has tried to identify factors influencing utilization of PMTCT service among the total of 588 study subject 531 pregnant women receiving PMTCT service this shows improvement from previous study that is conducted in Hawassa in 2007. In this study I have found various factors associated with utilization of PMTCT service these include like socio-demographic, reproductive history, knowledge and attitude.

HIV-positive pregnant women need to know their HIV status as early as possible in the course of their pregnancy. This is not only so they may benefit from PMTCT services, but also so they may receive ART for the improvement of their own health as soon as it is needed (whether during or after pregnancy). Their access to care and treatment services beyond PMTCT also increases the chance that their partners will access needed services, such as VCT and ART. In addition, reaching women during their pregnancy aids in the provision of HIV prophylaxis for HIV-exposed infants, follow-up and diagnosis of HIV infection in older children, and provision of pediatric ART. Knowing one's status is the obligatory first step to receiving HIV care services.

In this study among socio-demographic variables educational level is influencing the utilization of PMTCT service. The formal educational level was found to have statistical significant association with utilization of PMTCT service. This study is consistent with the findings of other studies which conducted in western Amhara region in Ethiopia, Sudan Indian and Gambella region in Ethiopia (10, 11, 12 and 14). On the contrary, a Nigerian study showed that higher level of education was associated with decreased acceptance of HIV testing (15).

The pregnant women who live at urban were statistical significant association with the PMTCT service utilization and this is consistent with the study conducted in west Amahara region in Ethiopia and Sudan (10, 11).

In this study the pregnant women who are attending ANC clinic at hospital were statistical significant association with the PMTCT service utilization. The pregnant women who were attending ANC at hospital have great chance to have two or more ANC follow up.

In this study the number of ANC visit also associated with utilization of PMTCT service, those who have two or more ANC visit statistical significant association with the utilization of PMTCT service. This study is consistent with the findings of other studies which conducted in India, Hawassa & Dire Dawa (12, 16, and 17). It could be the less often a pregnant woman comes in contact with the health center, the less likely to hear about PMTCT.

In this study pregnant women who had correct knowledge that MTCT of HIV occurs during pregnancy were statistical significant association with the PMTCT service utilization. This in line with the study conducted in Togo in 2010 shows that the higher percentage of women believed that contamination during pregnancy increased the risk of HIV transmission to the child (29).The pregnant women who had correct knowledge that MTCT of HIV occurs during labor and delivery also statistical significant association with the utilization of PMTCT service. This is consistent with the study conducted western Amhara region, Ethiopia. April 2007 shows that correct knowledge with respect to transmission of HIV during labor significantly associated with the utilization of PMTCT service (10). The pregnant women who had correct knowledge that MTCT of HIV occurs during breastfeeding also statistical significant association with the utilization of PMTCT service. This is consistent with the study conducted in Gambella shows that those who did not know breastfeeding as a route of mother to child transmission were almost two times more likely to refuse HIV testing than their counter parts (14).

In this study the pregnant women who had heard the availability of medicines for the prevention of mother to child transmission also statistical significant association with utilization PMTCT service. This consistent with the study conducted western Amhara region, Ethiopia, shows that correct knowledge with respect to mother to child transmission of HIV and it can be prevented by chemotherapy were associated with higher likely hood of using PMTCT services (10) and also consistent with the study conducted Hawassa health center shows that being aware of the availability of NVP for PMTCT associated with utilization of PMTCT service (16). The women who were supporting the idea of every pregnant should be tested for HIV were statistical significant association with utilization of PMTCT. Currently pregnant women have good awareness to utilize the PMTCT service. In this study partner who had ever tested for HIV statistical significant association with utilization of PMTCT service. This consistent with study conducted a PMTCT program in Abidjan, Côte d'Ivoire; the proportion of male partners tested

for HIV was only 23.1% among partners of HIV-positive women and 14.8% among partners of HIV-negative women (24). The study conducted in Uganda shows that Women who thought their husbands would approve were almost six times more likely to report a willingness to be tested compared to those who thought their husbands would not approve(27). In this study the pregnant women believed that their husbands support couple testing statistical significant association with utilization PMTCT service and consistent with the study conducted in Southwest, Nigeria and Uganda (22, 25). Male involvement on counseling and testing service increase the PMTCT service utilization because the major reason for their resistance is lack of consent from their husband or partner.

In this study among the total of five hundred thirty one who were under gone to counseling and testing five hundred twenty two women were received the test result, four hundred ninety nine (95.6%) were negative and twenty three (4.4%) were positive HIV status. Among 23 who has HIV positive status 20(86.96%) of pregnant women were linked to PMTCT service and three (13.04%) pregnant women were not linked to chronic ART care service. This is higher than the study conducted in Mwanza Tanzania and Zimbabwe (33, 34).

Antiretroviral therapy is often provided to pregnant women through referral systems since it is not always available where ANC and MCH services are being offered. Ideally, an HIV care team should be available wherever pregnant women are regularly being seen. This team should include not only health-care professionals but also those who can offer various forms of support, such as representatives of patient and community groups. This helps ensure that feedback is provided to health-care workers to inform the continuous improvement of care.

In this study the timing of when HIV positive pregnant women were linked to chronic ART care eleven (55%) within one month, seven (35%) within one to three months and two (10%) of above three months. Those who take more time to get the service may delay from recommended time for to start the prophylaxis. Twelve (60%) of HIV positive pregnant women were linked to chronic ART care with formal referral linkage and eight (40%) of HIV positive pregnant women linked to the service with informal referral linkage. Among twenty of HIV positive pregnant women who linked to the service nine (45%) of starting HAART, seven (35%) started ARV prophylaxis and four (20%) didn't start the medication until the time of the survey. This is higher than the study conducted in Zimbabwe of the 95 registered women 35 receiving ART (34). From

twenty three of HIV positive pregnant women who linked to chronic ART care service fourteen(60.9%) of pregnant women had undergone CD4 testing and nine(39.1%) had not undergone CD4 testing which is higher than the study conducted in Zimbabwe 17(18%) had not undergone CD4 testing(34).

The question of whether ART can be safely and efficiently provided in any health facility is complex. ART services tend to be located at referral facilities for various reasons (e.g., more extensive training of health-care workers, storage of ARVs, numbers of HIV-positive patients), whereas PMTCT services are more commonly located at lower-level health facilities, which are often unable to support more complex ART regimens. Therefore, patients either have to be referred to higher-level facilities for ART or ART services have to be decentralized. Often, systematic referral to urban facilities is not a viable solution due to distance, associated travel costs, time constraints for mothers in charge of young children, logistics issues (e.g., sporadic public transportation, weather, poorly maintained roads), as well as social factors, all of which increase the risk of loss to follow-up and discontinuation of ART.

The full decentralization of ART services requires time, resources, and considerable effort, particularly for training the large number of health-care providers at lower-level facilities. Yet decentralization of the health-care system is what is most needed in many settings and may be the only viable strategy to address widespread, resource-intensive chronic health conditions such as HIV infection.

7. STRENGTH AND LIMITATION OF THE STUDY

Strength

- The study used multiple method qualitative method to triangulate and interpret the findings of the quantitative results and as well elaborates issues not evidently explained in the quantitative data.
- It is one of the studies to see influencing factor for utilization of PMTCT service and even a base line for further studies at a large scale to see the referral linkage system for those HIV positive pregnant women after utilizing counseling and testing service in the Hawassa town. Hence, filling the gap in wide ranging HIV prevention and care programmes.

Limitation

- Since the study is a facility-based study and selection (ascertainment) bias is likely to occur and data collected from health facilities may not be representative of the community at large.
- Data collection was made by the nurses who are working outside of collected site but as key informants, the nurses are likely to know some of the variables of study.
- Even if systematic random sampling was used to select participant women for the study, data collector may recruit women consecutively when they came in the ANC follow up unit.
- The sample size of HIV positive pregnant women is too small.so, the analysis was limited to descriptive statics.
- It doesn't show cause and effect relationship.

8. CONCLUSION AND RECOMMENDATION

Conclusion

- PMTCT service utilization among pregnant women increased.
- Pregnant women who have more follow-up at ANC clinic have great chance to utilization PMTCT service.
- Having couple counseling increased utilization of PMTCT service.
- Pregnant women who support the idea of every pregnant woman should be tested improve utilization of PMTCT service.
- Partner involvement, creating awareness on benefit of utilization of PMTCT service through education will improve utilization of PMTCT service.
- In some of health center, ART service is not available.
- Intra-facilities referral linkage is not strong and not supported with feedback.

Recommendation

- Health education to the community through mobilization service will create good awareness and this will improve the PMTCT service utilization.
- Improving referral system and getting feedback between facilities will create good referral system between facilities.
- Further community based study and qualitative research is needed on determinants of PMTCT coverage and compliance.
- Further research is needed on referral linkage system for those HIV positive pregnant women.
- Pre service and on job training on HIV or PMTCT is needed for all health providers and ensure guidelines distribution and follow up to make sure the service is provided according to the guidelines.

- Expand ART service to all health facilities.
- Finally to improve PMTCT service everybody have a commitment specially government, program designer, health professional to see HIV free generation in 2015.

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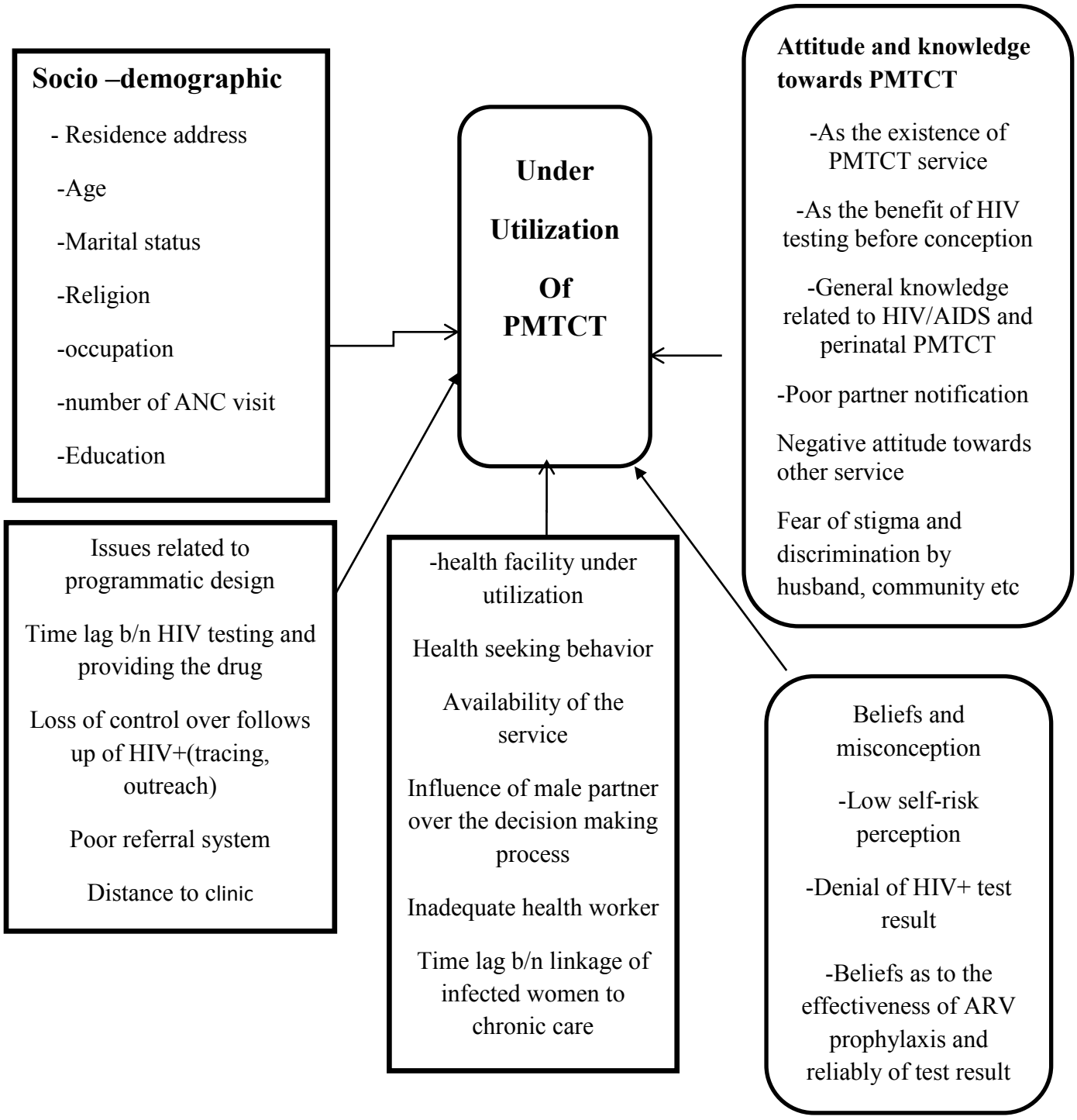
10- ANNEXES

Annex1: Conceptual Frame Work: Factors Limiting Utilization of PMTCT Service.



Annex 2: Data Collection Format

Data collection format for Addis Ababa University, MPH research project on factors influencing utilization of PMTCT service and delay of referral linkage for chronic care for HIV positive pregnant women 2012.

English information sheet

My name is _____,I am a nurse/midwifes working other health facilities now I am collecting data from pregnant women who have follow up on ANC clinicfor the research being conducted to factors influencing PMTCT utilization and delays of referral linkage and care in pregnant women by Fanna Adugna she is the Master of public Health student in Addis Ababa University. Based on the purpose and objectives of the study, therefore, you are rightfully eligible for the interview. It is only an interview and does not involve anything more. I would like to ask you set of specific questions. I will be grateful if you can spend some time talking with me. The interview is consent-based voluntary, confidential, private and of approximately half an hour's duration. Other than a general serial code, your name and other identification aspects are not going to be recorded on the interview sheet. Everything you are going to tell will get kept strictly confidential and private. You will not get obliged to respond to one or more of the specific questions that you do not want to respond to. But so long as you find it reasonably convincing, it undoubtedly is going to be more helpful when all of the questions of the interview set will get completed. Now, I can only start asking you the set of specific questions after I have confirmed your (willingness) with signing. I kindly ask you to take active part and contribute to the study. Are you willing to participate in the interview?

Principal investigator Fanna Adugna 0911814065 email fanadugna@yahoo.com

Are you willing to let your information to be utilized for this study?

1. Yes 2. No

Signature of the interviewer which shows that the respondent has consented (verbally) to take part in the study _____

Factors influencing utilization of PMTCT service and poor referral linkage to chronic ART care before delivery among HIV positive pregnant women in Hawassa public facilities.

Quantitative Survey Questionnaire

INTERVIEW INFORMATION

VERBAL COSENT |__ |__ | Day |__|__ | Month |__|__||__|__| Year

YES ☐ NO ☐

DATE OF INTERVIEW |__ |__ | Day |__|__ | Month |__|__||__|__| Year

TIME STARTED |__ |__ | Hour |__|__| Minutes

TIME ENDED |__|__| Hour |__|__| Minutes

RESULT * |__|

NAME OF HEALTH FACILITY ----------

INTERVIEWER NAME _____

SUPERVISOR _____

CHECKED BY _____

*RESULT CODES:

1=COMPLETED	4=REFUSED	7=OTHER (SPECIFY)
2=NOT AVAILABLE	5=PARTLY COMPLETED	
3=POSTPONED	6=INCAPACITATED	_____

Section 1: Socio Demographic Characteristics & Background Information

No.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
100	Residence address	Urban……1 Rural……2	
101	Age of the respondent	|__|__|years	
102	What is your religion?	Orthodox Christian ……...1 Islam……..2 Catholic……3 Protestant……4 Other (specify) ……77	
103	Marital status	Currently married ……1 Single (Never married)……2 Separated……3 Divorce……4 Widowed ……5	
104	Number of alive children (if any)	|__|__|__|Number	
105	Educational Status	Unable to read and write……1 Able to read and write……2 Attended elementary school (Grades 1-8)……..3 Attended high school (Grades 9–12)……4 Attended University/ college…5	
106	Occupation(woman)	Government employee……1 Farmer……2 House maid……3 House wife……4 Daily laborer……5 Other (specify)……77	
107	Duration of gestational period in month.	_____months.	
108	Have you visited other health facility than this in your current pregnancy for ANC?	Yes……1 No ……2	
109	How many antenatal visits do you have so far for your current pregnancy?	one visit……1 Two or more visit……2	
110	How satisfied are you with your access to health service?	Very dissatisfied……..1 Dissatisfied……2 Neither satisfied nor dissatisfied….3 satisfied……4 very satisfied……5	
111	Have you enough money to meet your needs?	Not at all……1 A little……2 Moderately……3 Mostly……4 Commpletly……5	

Section 2: **Knowledge, Perceptions and Attitudes towards HIV/AIDS**

No.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
200	Have you ever heard about mother to child transmission (MTCT) of HIV?	Yes ……1 No……2 →	202
201	Where did (do) you hear about it? From: (Do not read the alternative s. more than one response is possible).	Friends……1 Relatives……2 Health institution……3 Public media(radio, television, newspaper)……..4 Traditional community meetings (idir, coffee ceremony etc.)……5 Other (specify)……77	
202	Do you agree that HIV/AIDS is a curse sent from God rather than it is due to human misbehavior?	Yes ……1 No……..2 Not sure……..3	
203	Do you think woman with HIV infection can infect their babies with HIV during pregnancy?	Yes……1 No……2 Not sure……3	
204	Do you think woman with HIV infection can infect their babies with HIV during labour and delivery?	Yes……1 No……2 Not sure……3	
205	Do you think woman with HIV infection can infect their babies with HIV through breastfeeding?	Yes……1 No……2 Not sure……3	
206	During your current visit to antenatal clinic, have you ever been told about PMTCT?	Yes……1 No……2	
207	Do you think there are medicines which HIV infected mothers can take for PMTCT?	Yes……1 No……..2 Not sure……3	
208	What other preventive measures for MTCT know other than medicine?	Safe delivery practice……1 Not breast feeding……2 Safe sex……..3 It is impossible to prevent……4 I don't know……5 Others, specify ……	
209	Do you support the idea that every pregnant woman should be screened for HIV?	Yes……1 No ……2 I don't want to respond this question……9	
210	If yes should the partner be tested with the pregnant women or not?	Yes ……1 No……2 Don't know……3	

Section3 .HIV/AIDS related Behavior, Beliefs, Stigma and Discrimination

#	Question Item	Response	Skip to
300	Have you ever been counseled for HIV testing?	Yes ……1 No ……2 ⟶ I do not want to respond to this question……..3	306
301	If the response is yes, when were you counseled first?	Premarital VCT……1 Preconception VCT……2 In the current pregnancy……3 In previous pregnancy/ ies ……..4	
302	Have you tested for HIV after counseling	Yes……1 No, ……2	
303	Did you collect your test result?	Yes……1 No, ……2	
304	Did you know your current HIV status?	Yes……1 No ……2	
305	If yes what is your current HIV status?	Positive……1 Negative……2 ⟶ I don't know……3 ⟶ I do not want to respond to this question……9	308 308
306	For whom you disclose your HIV status?	My husband……1 My parents……2 My friends……3 My Neighbors……4 I don't want to respond this question……9 Other (specify)……77	
307	If your response is No to question number 300, why not?	I have no risk of HIV……1 Fear of discussing the horrible picture of HIV/AIDS……2 Knowing sero-status has no benefit……3 The need to consult to my husband……4 Fear of being seen in the VCT……5	
308	If you have a partner, has he had an HIV test?	Yes……1 No……2 Unsure……3	
309	Do you discuss with your partner about MTCT of HIV& the possible outcomes of the current pregnancy?	Yes……1 No……2 Doesn't remember……3 I do not want to respond to this question……..9	

310	What is the view of your husband regarding HIV screening?	Wants to have couple testing……..1 Wants me to be tested alone, but not himself……..2 Doesn't want me to be tested……3 Doesn't want to discuss at all……4 I don't want to respond to this question…….9	
311	Are your husband /partner willing to accompany you to ANC?	Yes……1 No……2	
312	Once you are HIV negative is it necessary to have HIV testing in each pregnancy?	Yes……1 No……2 Not sure……3	
313	What would be the best option for feeding an infant born to HIV positive mother?	Stop breastfeeding and provide formula food (if affordable)……1 Continue breast-feeding exclusively until six months ……2 Mix both breast as well as supplementary feeding……3 Provide the newborn with whatever is available in the house……4 Not sure ……5 I do not want to respond to this question…9 other (specify)……77	

4. referral linkage and care for HIV positive pregnant only

#	Question Item	Response	Skip to
400	After knowing your status were you linked to PMCTC service?	Yes ……1 No ……..2 →	407
401	If yes where did you go (link)?	Chronic ART service ……..1 psycho-social support service ……2 nutritional support service……3 economic support service……..4 Other (specify)……77	
402	When did you go to other service?	Immediately (hrs/days(less than one month)……1 Lately(with in1-3 month) ……2 Very lately(>3months)……3	
403	By what means they go to chronic ART service?	formal referral linkage (paper)……1 informally(orally)……2	
404	After linked to ART service did you know your CD4 cell count?	Yes……1 No……..2	
405	At time of enrollment CD4 cell count?	----------cell/mm^3	
406	Did you start ART therapy?(HAART)	Yes I have started(HAART)……..1 I am on prophylaxis……2 I didn't start……3	
407	If no to Ques 400 What do you think the reason?	Due to over burden on ANC care provider……..1 Not prescribed/ordered……2 In this facility there is no ART service……3 The ART service far from this facility……4 I don't want to go to ART service……5 I don't know……6 Other (specify)……77	
408	Do you think taking care to chronic ART service is necessary?	Yes ……1 No……2	
409	What is your benefit from taking care to chronic ART service?	To have healthy life for me……1 To have healthy life for my baby……2 To have a healthy life for my family……3 I don't know……4 Other(specify)……77	

Annex 3

Informed information sheet for In-depth Interviews:

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

Would you be willing to participate?

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

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

Guidelines for qualitative (the in-depth interviews)

The in-depth interviews among mother support group and Health workers delivering counseling for

PMTCT will cover a range of topics including:

1. What do you think is the reason that many women do not visit ANC while pregnant?
2. What do you say to the women about:
    1. PMTCT
    2. Disclosure
    3. Partner involvement
    4. Infant feeding
    5. Prophylaxis
    6. Sex
3. What do you think is the reason that many pregnant women tend to refuse HIV

Testing upon group education and individual counseling?

4. What do you think is the reason that HIV + pregnant women avoid taking prophylaxis?
5. What measures should be taken to scale up the program?
6. Any values of outreach programs focused on pregnant women? Could it give opportunities?

outside antenatal setting?

7. what do you think that HIV positive pregnant women have not engaged to chronic ART service or any community care?

ክፍል 00 **ስለ ጥናቱ አላማ መግለጫ**

ስም.....ይባላል፡፡የአ/አ/ዩ/የህብሰብ ጤና ሳይንስ ት/ት ክፍል የሚካሂደው ጥናት ውስጥ በጊዜያዊ መረጃ ሰብሳቢነት በመስራት ላይ እገኛለሁ፡፡ የጥናቱ አላማ ኤች ኣይቪ ከእናት ወደ ልጅ እንዳይተላለፍ በሚደረጉ አገልግሎቶች የነፍሰጡር እናቶችን አጠቃቀም ማወቅ ነዉ፡፡ በዚህ ጥናት ውስጥ በርካታ ነፍሰጡሮችን ማሳተፍ አስፈላጊ በመሆኑ በተለያዩ ቦታዎች የመረጃ ሰብሳቢው በማከናወን ላይ ነው፡፡

በዚህ ጥናት ስለግል ህይወትዎ፤ ስለቤተሰብዎ፤ ስለጤና አገልግሎት አጠቃቀሞ፤ ስለኤች ኣይቪ እና የመሳሰሉት ንጉዳዩች ይጠየቃሉ፡፡ የእርሶን ማንነት የሚያመለክት መረጃ ፈፀሞ አይመዘገብም፤ ሚስጥራዊነቱ የተጠበቀ ነው፡፡ የሚሰበሰበው መረጃ ተሰባስቦ በዋናው አጥኚ በኩል በጥንቃቄ የሚቀመጥ ሲሆን ጥናቱ ሲጠናቀቅ ማንም ሰው በማያገኝበት ሁኔታ ይወገዳሉ፡፡ መጠየቁ የሚካሄደው የእርሶን ፍቃድ ወስዶ ነው፡፡

ከዚህ ጥናት የሚገኘው ውጤት ለወደፊት ኘሮግራሙን የተሻለለ ማድረግ ይጠቅማል፡፡ በአጠቃላይ ጥናቱ 30 ደቂቃ ይወስዳል፡፡ በትግስትና በጥሞና አዳምጠዉ ለመመለስ የሚያደርጉትን ጥረት እያደነቅን በቅድሚያ ከልብ እናመሰግናለን፡፡ ***መመለስ የማይፈልጓቸው አንድ ወይም ከዚያ በላይ የሆኑ ጥያቄዎች ቢጋጥምዎት መልስ እንዲሰጡ አይገደዱም፡፡ይሁን እንጂ ምክንያታዊ በሆነ መልኩ አሳማኝ ሆኖ እስካገኙት ድረስ ሁሉም የመጠይቁ ክፍሎች ተሟልተው ቢመለሱ የበለጠ ጠቃሚ እንደሚሆን አያጠራጥርም፡ አሁን ወደ መጠይቁ ልገባ የምችለው እርስዎ ፈቃደኛ መሆንዎትን በእርስዎ ፊርማ ካረጋገጥኩ በኋላ ብቻ ነው፡፡***

በመጠይቁ ለመሳተፍ ፈቃደኛ ነዎት?

የለም፣መጠይቁንለመቀጠል ፈቃደኛ አልሆኑም_____
(ምስጋና በማቅረብመጠይቁን ይጨርሱ)

አዎ፣ለመሳተፍ ፈቃደኛነታቸውን አረጋግጠዋል____ የመልስሰጭውፊርማ _____
(ተሳትፏቸውንበማድነቅ ሚስጥራዊነቱ በተጠበቀናለግላቸው ብቻ በሚሆንበትመንገድመጠይቁንይቀጥሉ)

የመጠይቅአድራጊው ስም _____ፊርማ_____

የአስተባባሪው/የሱፐርቫይዘሩ ስም _____ ፊርማ_____

ዝርዝር መረጃ ካስፈለገዎትየጥናቱን መሪ ፈና አዱኛ ደበሌበስልክቁጥር 0911814065 **ማነጋገርይችላሉ፡፡**

ንዑስ ክፍል1 አጠቃላይ መረጃ

ተ.ቁ	መጠይቅ	ዝርዝርመልስ እና መለያ	ይለፍ
100	የመኖሪያ አካባቢ	ከተማ.....1 ገጠር.....2	
101	እድሜዎት ስንት ነው?		
102	ሀይማኖትዎት ምንድን ነው?	ኦርቶዶክስ.....1 እስልምና.....2 ካቶሊክ.....3 ፕሮቴስታንት.....4 ሌላ ይግለፁ.....77	
103	በአሁን ሰአት የጋብቻ ሁኔታዎት እንዴት ነው?	ባለትዳር.....1 በፍፁም አግብቼ አላውቅም.....2 ከባለቤቴ ጋር ተለያይተን ነው የምንኖረው.....3 (ነገር ግን አልተፋታንም) ተፋትቻለሁ.....4 ባለቤቴ ከዚህ አለም በሞት ተለይቷል.....5	
104	በሂወት ያሉ ስንት ልጆች አልዎት?		
105	እርሶ ያጠናቀቁት የትምህርት ደረጃ ምንድን ነው?	ማንበብና መፃፍ አልችልም.....1 ማንበብና መፃፍ እችላለው.....2 ከ1ኛ-8ኛ ክፍል ተምሬያለሁ.....3 ከ9ኛ-12ኛ ክፍል ተምሬያለሁ.....4 ከፍተኛ ትምህርት ተምሬያለሁ.....5	
106	መደበኛ ስራዎት ምንድን ነው?	የመንግስት ሰራተኛ.....1 ገበሬ.....2 የቤት ውስጥ ሰራተኛ.....3 የቤት አመቤት.....4 የቀን ስራ ሰራተኛ.....5 ሌላ ይግለፁ.....77	
107	እርግዝናዎት ስንት ወርዎት ነው?		
108	በዚህ እርግዝና ጊዜ በሌላ ጤና ተቋም የእርግዝና ክትትል ነበርዎት?	አዎ.....1 የለኝም.....2	
109	በዚህ እርግዝና እስካሁን ምን ያህል ጊዜ የእርግዝና ክትትል አድርገዋል?	አንድ ጊዜ.....1 ሁለትና ከዚያ በላይ.....2	
110	ለጤና አገልግሎት ባለዎት ቅርበት ምን ያህል ረክተዋል	በጣም አልረካውም.....1 አልረካውም.....2 መካከለኛ.....3 ረክቻለሁ.....4 በጣም ረክቻለሁ.....5	
111	ፍላጎቶትን ለማሟላት በቂ ገንዘብ አለዎት	በጭራሽ.....1 ትንሽ.....2 መካከለኛ.....3 ብዙ.....4 በጣም ብዙ.....5	

ንዑስክፍል2 ስለኤድስ ጠቅላላ እውቀት እሳቤና (አመለካከት)

ተ.ቁ	መጠይቅ	ዝርዝርመልስ እና መለያ	ይለፍ
200	ኤች አይቪ ቫይረስ ከእናት ወደ ልጅ እንደሚተላለፍ ሰምተው ያውቃሉ?	አዎን.....1 ሰምቼ አላውቅም.....2 →	**202**
201	ስለ ኤች አይቪ ቫይረስ ከእናት ወደ ልጅ እንደሚተላለፍ ከየት ሰሙ(ከአንድ በላይ መልስ መስጠት ይቻላል፡ምርጫው ግን አይነበቡም)	ከጓደኛ.....1 ከዘመድ.....2 ከጤና ተቋማት..... 3 ከህዝብ መገናኛ (ሬድዮ፤ከቴሌቪዝን፤ከጋዜጣ).....4 ከማህበራዊ ግንኙነት(እድር፤ቡና).....5 ሌላ(ይግለፁ).....77	
202	ኤችአይቪ ኤድስ በባህሪያችን ምክንያት የሚመጣ ሣይሆን የእግዚአብሄር ቁጣ ነው ቢሉት ይስማማሉ?	አዎ.....1 አልስማማም.....2 እርግጠኛ አይደለሁም.....3	
203	ኤች አይቪ ቫይረስ በደሞ ውስጥ የሚገኝ አንድ እናት ቫይረሱን በርግዝና ወቅት ወደልጇአ ታስተላልፋለች?	አዎ.....1 አታስተላልፍም.....2 እርግጠኛ አይደለውም.....3	
204	ኤች አይቪ ቫይረስ በደሞ ውስጥ የሚገኝ አንድ እናት ቫይረሱን በምጥ ጊዜና በወሊድ ወቅት ወደልጇአ ታስተላልፋለች?	አዎ.....1 አታስተላልፍም.....2 እርግጠኛ አይደለውም.....3	
205	ኤች አይቪ ቫይረስ በደሞ ውስጥ የሚገኝ አንድ እናት ቫይረሱን በጡት ማጥባት ወቅት ወደልጇአ ታስተላልፋለች?	አዎ.....1 አታስተላልፍም.....2 እርግጠኛ አይደለውም.....3	
206	በዚህ እርግዝና ክትትል ወቅት ኤች አይቪ ቫይረስ ከእናት ወደ ልጅ እንዳይተላለፍ መከላከያ መንገድ ትንግሮዎታል?	አዎ.....1 አልተነገረኝም.....2	
207	የኤች አይቪን ህዋስ ወደ ፀንስ እንዳይተላለፍ መከላከያ መድሃኒት እንዳለው ሰምተው ያውቃሉ?	አዎ.....1 አላውቅም.....2	
208	መድሃኒት ከመውሰድ ሌላ ኤች አይቪ ቫይረስ ከእናት ወደ ልጅ እንዳይተላለፍ መከላከያ ዘዴ ምንድን ነው?	ንፀናውን የጠበቀ የወሊድ አገልግሎት.....1 ጡት አለማጥባት.....2 ጥንቃቄ ያለው ግብረ ስጋ ግንኙነት ማድረግ.....3 መከላከል አይቻልም.....4 አላውቅም.....5 ሌላ(ይግለፁ).....77	
209	እያንዳንዷ ነፍሰጡር የኤች አይቪ ምርመራ ታድርግ የሚለውን ሀሳብ ይደግፉ?	አዎ.....1 አልደግፍም.....2 ለዚህ ጥያቄ መልስ መስጠት አልፈልግም.....9	
210	መልስ አዎ ከሆነ ባሎች አብረው የኤች አይቪ ምርመራ ማድረግ አለባቸው ወይም የለባቸውም?	አዎ.....1 የለባቸውም.....2 እርግጠኛ አይደለሁም.....3	

ንዑስ ክፍል 3 ኤች አይቪ/ኤድስን በተመለከተ ባህሪያት፣ እምነት፣አድሎ እና መድሎ

ተ.ቁ	መጠይቅ	ዝርዝር መልስ እና መልስ መለያ	ይለፍ
300	የኤችአይቪ ምርመራ እንዲደረግልሽ የምክር አገልግሎት ተሰጥዎት ያውቃል?	አዎ.....1 የለም አላወቅም.....2 → 307 ለዚህ ጥያቄ መልስ መስጠት አልፈልግም.....9	
301	መልስሽ አዎ ከሆነ ለመጀመሪያ ግዜ የምክር አገልግሎት ያገኘሽው መቼ ነበር?	ቅድመ ጋብቻ ግዜ.....1 ቅድመ እርግዝና ግዜ.....2 በዚህ እርግዝና ክትትል ግዜ.....3 በቀድሞዉ እርግዝና ክትትል ግዜ.....4	
302	ምክር አገልግሎት ቦሃላ የኤቸ አይቪ ምርመራ አደረግሽ?	አዎ.....1 የለም አላወቅም.....2	
303	ከተመረመሩ ቦሃላ ውጤትዎትን አዉቀዋል?	አዎ.....1 የለም አላወቅም.....2	
304	በአሁን ስአት የኤች አይቪ ምርመራ ውጤትዎትን ያውቂሉ?	አዎ.....1 አላውቅም.....2 → 308	
305	አዎ ከሆነ መልስዎት ውጤትዎትን ልትነግሩኝ ይችላሉ?	ኤች አይቪ ቫይረስ በደሜ ውስጥ ይገኛል.....1 ኤች አይቪ ቫይረስ በደሜ ውስጥ አይገኝም.....2 ለዚህ ጥያቄ መልስ መስጠት አልፈልግም.....9	
306	ውጤትዎትን ለማን አሳወቁ?	ለባለቤቴ.....1 ለቤተሰቦቼ.....2 ለጉደኞቼ.....3 ለጎረቤት.....4 ሌላ (ይግለፁ).....77	
307	መልስዎት አላውቅም ከሆነ ለጥያቄ 300 ምክንያትዎት ምንድን ነው?	ለኤች አይቪ የሚያጋልጠኝ ምንም ነገር ስለሌለኝ.....1 የኤድስ አስከፊ ገፅታ መወያየት ስለሚያስፈራኝ.....2 ኤችአይቪ መኖር አለመኖሩን ማወቅ ምንም ጥቅም ስለሌለው.....3 ለመመርመር ከባለቤት ጋር መወያት ስለሚያስፈልገኝ.....4 ሌሎች ሰዎች በምርመራ ክፍል እንዳያዩኝ ስለምፈራ.....5	
308	ባለቤትዎት(የፍቅር ጓደኛዎት) የኤችአይቪ ምርመራ አድርገዉ ያውቃሉ?	አዎ.....1 አያውቅም.....2 እርግጠኛ አይደለሁም.....3	
309	ኤች አይቪ በእርግዝና ወቅት ከእናት ወደ ፅንስ እንደሚተላለፍ፣የእርግዝና ውጤትም ምን ሊሆን እንደሚችል ከባለቤትዎትጋር/ከፍቅረኛዎት ጋር ተወያይተዉ ያዉቃሉ?	አዎ.....1 አናዉቅም.....2 አላስታውስም.....3 ለዚህ ጥያቄ መልስ መስጠት አልፈልግም.....9	
310	ባለቤትዎት በኤች አይቪ ምርመራ ላይ ምን አይነት አመለካከት አላቸዉ?	አብረን እንድንመረመር ይፈልጋል.....1 እኔ እንድመረመር ይፈልጋል ለራሱ ግን አይፈልግም.....2 እኔ እንድመረመር አይፈልግም.....3 ፈፅሞ በጉዳዩ ላይ መወያየት አልፈልግም.....4 ለዚህ ጥያቄ መልስ መስጠት አልፈልግም.....9	
311	ባለቤትሽ በእርግዝና ክትትል ስትመጪ አብሮሽ ለመምጣት ፍቃደኛ ነው?	አዎ.....1 አይደለም.....2	

312	አንድ ጊዜ ኤች አይቪ ተመርምረሽ የለብሽም ከተባልሽ በሚቀጥለው የእርግዝና ጊዜሽ በድጋሜ የየኤች አይቪ ምርመራ ማድረግ ያስፈልጋል?	አዎ.....1 አያስፈልግም.....2 እርግጠኛ አይደለሁም.....3	
313	ከኤች አይቪ ጋር የምትኖር እናት ልጁን ለመመገብ ጥሩው መንገድ ምንድን ነው?	አቅም ካላት ጡቷን አቁማ ሌላ የጡጦ ምግብ መጀመር.....1 የመግዛት አቅም ከሌላት ጡቷን መቀጠል ለስድስት ወራት ያህል.....2 ጡቷንና የጡጦ ምግብ እያፈራረቁ መቀጠል.....3 ቤት ያፈራውን ነገር ሁሉ መስጠት.....4. ምን እንደሚሻል እርግጠኛ አይደለሁም.....5 ለዚህ ጥያቄ መልስ መስጠት አልፈልግም.....9 ሌላ(ይግለፁ).....77	

ንዑስ ክፍል 4 ኤችአይቪ ቫይረስ በደሙዎ ውስጥ ያለች እናት የክትትሎዎን ሁኔታ አስመልክቶ

ተ.ቁ	መጠይቅ	ዝርዝር መልስ እና መለያ ቁጥር	ይለፍ
400	ውጤትዎትን እንዳወቁ ኤች አይቪ ቫይረስ ከእናት ወደ ልጅ እንዳይተላለፍ ዘላቂ የእክምና ክትትል የሚሰጥበት ክፍል አገልግሎት እንድታገኚ ተደርገዋል?	አዎ አልተደረኩም ——————————→	407
401	አዎ ከሆነ መልስዎት ምን አገልግሎት አገኙ?	የፀረ ኤች አይቪ መድሀኒት አገልግሎት የሚሰጥበት ቦታ ተላኩኝ.....1 የስነ ልቦና ድጋፍ አገልግሎት የሚሰጥበት ቦታ ተላኩኝ.....2 የምግብ ድጋፍ አገልግሎት የሚሰጥበት ቦታ .....3 የገንዘብ ድጋፍ አገልግሎት የሚሰጥበት ቦታ .....4 ሌላ ይግለፁ.....77	408
402	መቼ ነው የፀረ ኤች አይቪ መድሀኒት አገልግሎት የሚሰጥበት ቦታ የሄድት?	ዎድያሁኑ (ሰአት /ደቂቃ፣ከአንድ ወር ያነሰ).....1 ትንሽ ዘግይቼ(ከአንድ ወር እስከ ሶስት ወር ባለዉ ግዚ ውስጥ).....2 በጣም ዘግይቼ(ከሶስት ወር በሃላ).....3	
403	በምን መንገድ ነው ይህን አገልግሎት እንድታገኚ የተደረግውት?	በሪፈራለ ወረቀት.....1 በቃል ነግረዉኝ ነው እንድሄድ የተደረኩት.....2 ሌላ ይግለፁ.....77	
404	ወደ ፀረኤች አይቪ መድሀኒት አገልግሎት የሚሰጥበት ቦታ እንደሄድ ነጭ የደም ሴል በሽታ መከላከያውን(cd4) ተሰራልዎት?	አዎ.....1 አልተሰራልኝም.....2	
405	ተሰርቶሎት ከሆነ የመጀመሪያው cd4 ስንት ነው?	.....cell/mm^3	
406	የፀረ ኤች አይቪ መድሀኒት ጀመሩ?	አዎ ፀረ ኤች አይቪ መድሀኒት እየወሰድኩ ነው.....1 ከእናት ወደ, ልጅ እንዳይተላለፍ የሚሰጠውን መከላከያ መድሃኒት እየወሰድኩ ነው.....2 ምንም መድሀኒት አልጀመርኩም.....3.	
407	ለጥያቄ 400 መልስዎት አልተደረኩም ከሆነ ምክንያቱ ምን ይመስልዎታል?	የስራ ጫና ስላለ በእርግዝና ክትትል ሰጪዎቹ.....1 አላዘዙልኝም.....2 በዚህ ጤና ተቋም አገልግሎቱ ሰለሌለ.....3 ጤና አገልግሎቱ ከዚህ ጤና ተቋም ሰለሚርቅ.....4 አገልግሎቱን ማግኘት ስለማልፈልግ.....5 አላውቅም.....6 ሌላ ይግለፁ.....77	
408	አንድ እናት ኤች አይቪ ቫይረስ በደሙ ውስጥ እንዳለ ከታወቀ ዘላቂ የሆነ የጤና አገልግሎት እንዲሁም ክትትል ማድረግ አስፈላጊ ነው ?	አዎ.....1 አይደለም.....2	
409	ዘላቂ የሆነ የጤና አገልግሎት ማግኘት ጥቅሙ ምንድን ነው?	ጤንነቴ የተጠበቀ እንዲሆን.....1 የልጄ ጤንነት የተጠበቀ እንዲሆን.....2 የቤተሰቦቼ ጤንነት የተጠበቀ እንዲሆን.....3 አላውቅም.....4 ሌላ ይግለፁ.....77	