PREVALENCE OF HIV INFECTION AMONG PREGNANT WOMEN ATTENDING AN PREVALENCE OF HIV INFECTION AMONG PREGNANT WOMEN ATTENDING ANTENATAL CLINIC IN JIMMA HEALTH CENTER, JIMMA TOWN, OROMIA REGION, SOUTH WEST ETHIOPIA

BY:-

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PREVALENCE OF HIV INFECTION AMONG PREGNANT WOMEN ATTENDING ANTENATAL CLINIC IN JIMMA HEALTH CENTER, JIMMA TOWN, OROMIA REGION, SOUTH WEST ETHIOPIA

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ABSTRACT

Background: The proportion of females infected by HIV worldwide increased from time to time. Sub Saharan Africa is the one part of the world where HIV prevalence and AIDS death are higher for women than men death. African women are the group most sever affected by the epidemic accounting 66% of those infected between the ages of 15-24 years. Pregnancy provides a unique opportunity for implementing HIV infection prevention strategies in women. Prevalence of HIV in pregnancy would indicate the HIV prevalence in female population and to some extent in general population mothers to child transmission

Objective: The main objective of this study was to determine the HIV sero-prevalence among pregnant women attending JHC ANC clinic.

Methods: A one year record based retrospective analysis was carried out from April 25-30 in Jimma health center. Sample population was selected by systematic random sampling technique from patient record reviews according to serial number every 3 consecutive registration number. Data wascollected usingstructuredcheck lists. The collected data was analyzed manually by scientific calculator and was present by using table and charts.

Result:A total of 137 mothers record reviewed and almost all 134(97.8%) of them were tested. Majority of the mothers 90(65.4%) who accepted HIV testing were aged between 15 to 24 years. One hundred forty one (56.2%) had gestational age between 0-28 week. Only7(5.1%) of the mothers who were PMTCT counseled got their partner tested.There is no association in overall sero prevalence between gestational age of mothers, which has lacked statistical significance ($p<0.005$)

Conclusions and Recommendation: The percentageof ANC attendees who have got their partners HIV tested are extremely low. overall HIV prevalence among the mother is 5.97, the prevalence is higher for age group 35-49 (14.2%), and no observed sero prevalence for 40-44 years age group of mothers, the difference in sero reactivity is may due to under report or this age group was may less likely to became pregnant, and there is statistically significant association between HIV sero prevalence and age group 15-44.The poor PMTCT data quality observed at J health center needs to be improvedand maintain the current increasing trend in voluntary HIV testing practice among Primigravida and primipara ANC attendees, awareness creation campaigns on PMTCT of HIV and available services have to be further strengthened and expanded

Key words: Prevalence of HIV infection among pregnant women.

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ABBREVIATIONS

ANC: Antenatal care

JHC: JimmaHealth Center

AIDS: Acquired immune deficiency syndrome

HIV: Human immune deficiency virus

PW: Pregnant women

PMTCT:Prevention of mother to child transmission

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CHAPTER ONE
INTRODUCTION

1.1Background information

Although HIV/AIDS is Global epidemic, the majority of people living with HIV/AAIDS are Sub Saharan Africa, Thirty eight million people living with HIV worldwide in 2006. Sub Saharan Africa is a home for 25 million people living with HIV/AIDS. In the early days of the epidemic, men vast it out numbers women among people infected with HIV. It looks along time for the world to admit HIV as a threat to women. The proportion of females infected by HIV worldwide increased from time to time. Sub Saharan Africa is the one part of the world where HIV prevalence and AIDS death are higher for women than men death (1, 2).

Nearly, 50% of the 40 million people living with HIV/AIDS are female. In sub Saharan Africa 59% of those infected with virus are females. Studies in sub Saharan Africa have shown that there are 14 infected women for every 10 infected men (1, 3).According to the Ethiopia demographic and health serves (EDHS), the estimated adult HIV prevalence in 2005 was 1.4%. The prevalence in women is nearly 2% while the prevalence among male was under 1% (5).

As HIV infection in women occur primary donning their reproductive years. Pregnancy provides a unique opportunity for implementing HIV infection prevention strategies in women. Prevalence of HIV in pregnancy would indicate the HIV prevalence in female population and to some extent in general population mothers to child transmission, by for the most significant route of transmission of HIV in children below the age of 15 years (6).
Women are disproportional at risk because they are biologically more susceptible to HIV infection than men. Data from number of studies revealed that male to female transmission during sex is 2-5 times greater in female, if no sexual transmission infection present (7).

1.2 Statement of the problem

Human immune virus /Acquired immune deficiency syndrome (HIV/AIDS) has spread throughout the world causing on told suffering and death and creating profound development challenge. It has killed more than 25 million people, since it was first recognized in 1981 (8).Since the HIV/AIDS epidemic began, almost 58million peoplethroughout the world have been intended with HIV and almost 22 million people have died due to the disease. (9)

HIV/AIDS has become a serious global health and psychosocial crisis, with at least 40 million infected individuals worldwide: It is not only strikes a adults, but alsochildren and adolescent. In the third worldcountries, more than 40 % of all live births involveHIV infected children. Epidemiological data from the US center of disease control (CDC) and prevention indicate thatapproximately 950.000 us citizen are infected with HIV, and 280.000 [30 0/0] don't know they are infected (CDC,2004] [10] .The HIV AIDSepidemics are not of thelargest public health crises of twenty one [21 century). While the epidemic has spread over two decades a core or valline for HIV has remain elusive (11).

HIV/AIDS is more prevalence among female adults under the age of 40 in nearly all age groups in the world. Roughly, 4 is very 5 people HIV/AIDS age 20-24 are women's only one third of people HIV/AIDS age 25-29 are men (12).Thirty eight million people living with HIV/AIDS worldwide in 2006. Sub Saharan Africa is a home for 25 million people living with HIV/AIDS. HIV/AIDS is a major public health concern and cause of death in Africa.

Although Africa is in habited by just over 14.7% of the world's population, it is estimated to have more than 88% of people living with HIV and 92% of all AIDS deaths in 2007. (13)
Throughout the world, the unequal social status of women places them at higher risk for contracting HIV- women are at disadvantage when it comes to access to information about the ability to negotiate date sexual encounters and access for HIV/AIDS once infected. As a result of these inequalities and epidemic dynamics the proportion of women among people living and HIV/AIDS is rising in many regions (17).

HIV infection was the 5th leading cause of death among all women aged 35-44 years and the 6th leading cause of death among all women ages 25-34 years (15).The HIV/AIDS epidemic interests with the problem of maternal mortality in many circumstances in sub-SaharanAfrica. The extent of contribution in HIV/AIDS maternal mortality is difficult to quantity at the HIV states of pregnant women in sub region is not always known (16).

CHAPTER TWO
LITERATURE REVIEW

The HIV prevalence estimates have come under interested secreting in recent years and some countries have revised their estimated down words as more reliability data have become available. For example, the estimated number of HIV infected people in India was revised down ward from 5.7 million to 2.5 million in 2007 (11).In Thailand prevalence in women in antenatal clinic has climbed from 0% 1989 to 2.3% in 1995 and continues to rise, similarly increases are reported from some India cities, Latin America and the Caribbean (12).

In a study on epidemiology and detect of HIV-1 among pregnant women in United Kingdom, the prevalence of HIV among mothers in London rose six told between 1989 and 1996 (0.19% of women tested 1 in 520 in 1996) a part from in Eden burgh and Dundee levels remained low. In Scotland (0.025% 1 in 3970) and ease where in United Kingdom (0.016% in 1930) (18).Similar down word adjustments in HIV prevalence estimates have also been made for several countries in sub Saharan Africa. As consequences, UNAIOS and world health organization have recently lowered the global estimate of number of HIV infection people from 39.5 million in 2006 to 33.2 million in 2007 (11).

Southern Africa remains the words affected region in the world, with data from antenatal clinic in urban area in 2002 shooing HIV prevalence of over 25% following a rapid increase from just 5% in 1990 (10).In Swaziland the average prevalence among pregnant mother was 39% in 2002. The same is true in Botswana, having 35% to 37% ANC prevalence between 2001 and 2003 (18).In Southern Africa reduction in HIV prevalence are specially striking in Zimbabwe, where HIV prevalent in pregnant women attending antennal clinic fell from 26% in 2002 to 18% in 2006. In Botswana, a drop in HIV prevalence among pregnant women 15-49 years old (from 25% in 2001 to 18% in 2006) suggest that the rate of new infection could be solving. The epidemics in Malawi and Zambia appear to have stabilized, and some evidence of favorable behavior changes and declining HIV prevalence among women using antenatal services in some urban areas. In Lesotho and parts of Mozambique HIV prevalence among pregnant women is increasing. The largest HIV epidemic in western African in

Nigeria appears to be stabilized at 3.1% according to surveys of HIV infection from antenatal clinic (19).

Uganda is among the Africa countries where the HIV epidemic was first recognized and among the location where it is the most sever. In 1986 HIV Sero-prevalence among antenatal clinic attendees in Kampala, the capital city was found to be already about 15%. The official requires by the end of 1994 stated that there were estimated 1.3 million adults and children (20)

Data from three other semi urban HIV sentinel surveillance sit among antenatal clinic attendees mbarar. Torero, and Mable, where no behavioral data are available disclose divergent HIV trends. In mbarar after peaning at 30.2% (62 of 205) in 1991, HIV prevalence decline to a level of 15% (35 of 233) in 19996, a trend similar to the one describing in Kampala and Jinza , the prevalence in to rondo and Mable have remained relatively stable in range of 9-13% (20).

In Kenya , Malawi Rwanda, Namibia , South Africa the United Tanzania, Zimbabwe over 10% of women attending clinic in urban areas are HIV positive with a rate of almost 60% in some cities (21).HIV prevalence among pregnant women decline in several places. In Addis Ababa prevalence has fallen from peak of 24% in 1995 to 11% in 2003 (23).

Recently data from AIDS in Ethiopia 6th report of the ministry of health indicated that HIV prevalence varies across from 0.0% to 24.8% , and crude data suggest that 5.3% of antenatal care attendees were HIV positive in all age group (9.6%) urban and 2.2% regal) (29).
Moreover according to 2006 ministry of health (MOH) report in Ethiopia a total of 105.675 HIV positive pregnancies and an estimated 30.338 HIV positive birth accrued in 2005 among 0-14 years there were 30.308 new HIV infections, 21.707 new AIDS case and about 744.088 children were orphans due to AIDS the report also indicates an estimated number of 38.192 HIV positive pregnancies and 11.175 births occurred in Amhara reign furthermore some 293.169 AIDS related orphans were estimated 124.

1.2. Significance of Study

In order to provide the quality health care and Prevention of maternal to child transmission of HIV infection the prevalence of HIV among pregnant women should be continuously assessed among pregnant women's. In addition to these estimating sero-prevalence in pregnant women is used to initiate the effective and timely prevention that reduce infection to babies and also studying sero-prevalence in this group is used to draw appropriate program and policy used to strengthen efforts towards PMTCT and also indicates sero-prevalence of HIV among females and to some extent general populations more over the finding from the study was used as secondary data or base line data for those who wanted to conduct for the study in the area of the problem.

CHAPTER THREE

OBJECTIVES

3.1 General Objectives

To assess the prevalence of HIV infection among pregnant mother attending antenatal clinics in Jimma health center, Jimma zone, Oromia region SWE June 2014.

3.2 Specific Objectives

3.2.1 To determine HIV sero-prevalence rate of the year among ANC attendees

3.2.2 To identify factors associated with sero-positivity, among ANC attendees

CHAPTER FOUR

METHOD AND MATERIALS

4.1 Study area and study period

The study was conducted in Jimma health center found in Jimma town, from April25-30, 2014. Jimma town is found Jimma zone Oromia regional state, is a capital of Jimma zone and located at about 346 Km in south west of capital city, Addis Ababa. According to the 2007 census of Oromia region population size of urban Kebeles, it has a population of 120,960 (Males are 60,824 and Females are 60,136), 30,751 housing units and 32, 191 households. It has 2 woreda and 13 Kebeles, and. The climate of Jimma town was woynadega, with annual rainfall of 3700 mm and altitude of 1500 - 17000 above sea level.

Currently there is 1 specialized Teaching Hospital, 1Defense Hospital, 1 police Hospital, 1 Primary Hospital and4 Health centers found in Jimma town.Jimmahealth center is one of the three health center and currently it have total 14 health workers, located in mentina kebele, Jimma town.

4.2 Study design.

A one year records based retrospective study wasemployed. For mother attended ANC from April 2,2013 to April 2, 2014.

4.3 Population

4.3.1 Source of population

All records of pregnant motherswho were visited Jimma health center from April 2, 2013 to April 2, 2014.

4.3.2 Study population

All records pregnant women visited ANC clinics of Jimma health center

from April 2, 2013 to April 2, 2014.

4.4 Sample size determination and sampling technique

4.4.1 Sample size determination

Selected pregnant women visited, ANC clinics of Jimma health center during indicated period was involved in the study.

The sample size determined by the number of all pregnant women who has been visited ANC clinics during the period and based on population prevalence (p=11%) from Addis Ababa, statically estimation is made by using sample size discriminations formal as follows

$$N = \frac{\left(Z\,{}^{\alpha}/_{2}\right)^2 P(1-P)}{d^2}$$

$$N = \frac{(1.96)^2 0.11(1-0.11)}{(0.05)^2} = 169$$

Where,

- N=sample size
- Z α/2= level of significant which is 1.96
- p= population sero- prevalence for ANC attending mother Addis Ababa (11%)
- d =degree of margin error which is 0.05

Since our source population is less than 10,000, which are 411we use the correction formula as follows.

$$\text{nf} = \frac{n}{1+\frac{n}{N}}$$

$$\text{nf} = \frac{384}{1+\frac{384}{411}} = 137$$

Where,

- n_f= final sample size
- n=total study population which is 384
- N=total number of women who visited ANS in JHC in last year.

4.4.2 Sample technique

Sample population were selected by systematicrandom sampling technique from patient record reviews according to serial number every 3 consecutive registration number.

4.5 study variable

Independent variable	Dependant variable
-Age	- prevalence of HIV
- Sex	
- Marital status	
- Religion	
-Gravidity	
- Parity	

4.6 Data collection process and technique

Recorded check list prepared by collecting to different literature was used to collect data.

Data collection procedure

Data was collected by reviewing ANC record by using record check lists two year four nursing students was selected to collect data after the get proper training and orientation by principal investigator in how to record and fill data on check list.

4.7 Data quality control

Before beginning of actual data collection the prepared cheek lists and whore methods was presented on some experts to find for any errors of found to be corrected at the end of each data collection day the cheek list was cheeked for consistency and completeness and close supervision was carried out during data collection by principal investigation.

4.8 Data proceeding and analysis

The collected data was checked for completenessat the end of each data collection day and data was analyzed using scientific calculator and manually prepared tally sheet.

4.9 Ethical consideration

Before proceeding with actual data collection process an official permission letter was obtained from JimmaUniversity. SKP office and brought center to get permission for the study the purpose of the study was explained for administrative bodies and for professionally assigned to ANC clinic. Also data was kept can confidentially and finally reported to the concerned body for possible interventions.

4.10 Limitation of the study

- Positive client may recorded as negative due to window period.
- Access to general ANC logbooks, PMTCT counseling logbooks and ANC follow up cards was limited since they were misplaced or being used by ANC staff at the time of data collection. Data varied in quality (handwriting was not always clear). The variables recorded in the logbooks of PMTCT were not complete. For example, gravidity, parity, occupation, and marital status data were missing in PMTCT counseling log books. The worst was with individual ANC follow up cards which were the only data sources for such variables as marital status, occupation and other socio economic variables. Large number of those cards was completely lost at all visited health centers.

4.11 Dissemination of the result

After the completion of the study, the finding report after being defended at Jimma University, it was submitted to Jimma university SRP office, and department of nursing. The copy will also be sent to advisors of the project and the Jimma town health bureau.

4.12 Operational Definition

AIDS – is a disease of the human immune system enable the immune system to weak to right off infection

ANC: The care of pregnant women during the time in the maternity cycle that begins with conception and ends with the onset of labor.

HIV: is a virus that gradually attacks immune system cells and finally cause AIDS.

HIV infection: Presence of HIV antibodies in the blood as is detected by HIV test rit.

Sero-prevalence: the number of person in a population WHO is positive for a specific disease based on serological specimen (blood serum), the overall occurrence of a defined population at one time is measured by blood tests.

CHAPTER FIVE

RESULTS

5.1 Maternal Socio Demographic Characteristics

A total of 137 women's record selected for the study, majority of the mother 90 (65.4%) was in the age between 15-24. Among the mother who visited ANC majority of them 77 (56.2%)were in the gestational age between 0-28 week.Among the total of 137 ANC attendees whose residence were known 136 (99.3%) permanently lived in Jimma, while only 1 (0.7%) lived out of Jimma. Primigravida and Primiparous mothers were 86(62.77%) and 70 (51.1%) respectively.

Table:-1 Distribution of Maternal Socio-demographic and HIV–test related Characteristics among counseled ANC attendees in Jimma health centers, Jimma town, Oromia region 2014.

Variables		Number	Percent
Maternal age	15-24	90	65.4
	>24	47	34.6
Gestational age	0-28 wks	77	56.2
	29-36 wks	52	37.95
	37-42 wks	8	5.85
Place of residence	Jimma	136	99.3
	Out of Jimma	1	0.7

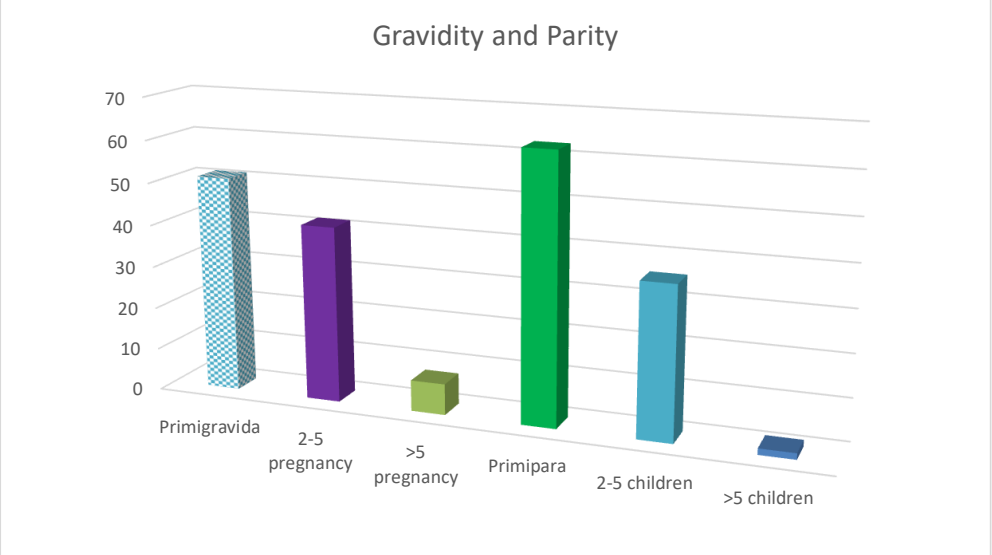

Figure: - 1gravidity and parity among counseled ANC attendees in Jimma health centers, Jimma town, Oromia region 2014.

5.2 HIV testing status

Majority of the mothers 90 (65.4%) who accepted HIV testing were aged between 15 to 24 years. Seventy seven (57.46%) had gestational age at first HIV counseling and testing of 0-28 weeks. all of them counseled for HIV/AIDS testing. Among almost all 134(97.8%) were tested and received test result during the 1 year period. Almost all HIV tested ANC attendees took their HIV test result the same day they were tested though it was not known whether they shared the information with their partners or not. However, 90.5% (124) of mothers who had undergone HIV test were tested only once without having repeat test during the course of pregnancy, though, there is a wide possibility of acquiring HIV during pregnancy. Moreover only 7 (5.1%) of the mothers who were PMTCT counseled got their partner tested.

Table:-2 Distribution of Maternal HIV–test related Characteristics among counseled ANC attendees in Jimma health centers, Jimma town, Oromia region 2014.

Maternal HIV tested status	Tested	134	97.8
	Not tested	3	2.2
Frequency of HIV testing	Once only	124	90.5
	Repeated test	13	9.5
Receiving test results	Receive	134	97.8
	Not received	3	2.2
Partner of testing	With tested partner	7	5.1
	Without tested partner	130	94.9
PMTCT	Counseled	137	100
	Not counseled	0	0

5.3 Trends Of HIV Testing

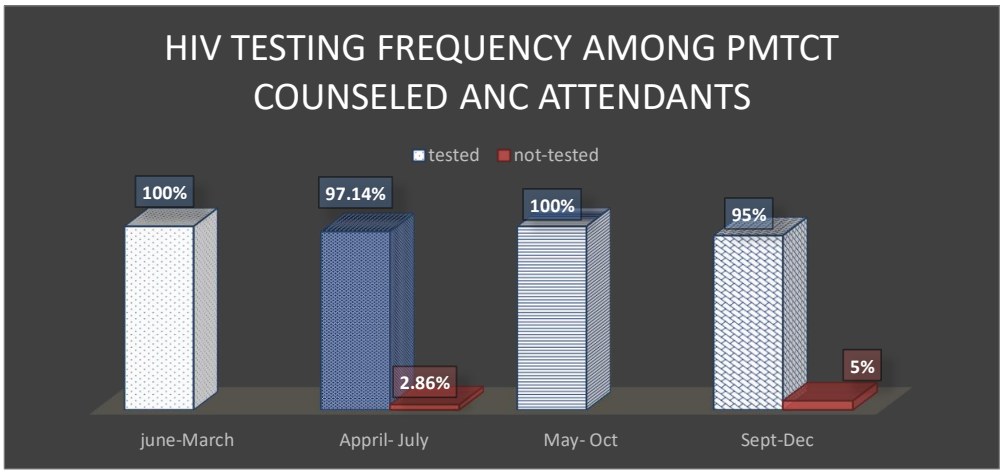

Figure:- 2HIV testing frequency among PMTCT counseled ANC attendees in Jimma health centers, Jimma town, Oromia region 2014.

As shown in table 2 the VCT acceptance rate was relatively similar over the year quarters and totally 134 (97.8%) are tested for HIV /AIDS

5.4 Distribution of HIV testing

Table2: Distribution of HIV testing among PMTC counseled mother ANC attending ANC , by their maternal age HIV test, among In JHC, , Jimma town, Oromia region , 2013/2014.

Age group	Tested		No tested		Total	
	No	Percent	No	Percent	No	%
15-19	32	100	-	-	32	
20-24	57	98.28	1	1.72	58	41.8
25-29	18	94.73	1	5.27	19	
30-34	14	93.33	1	6.77	15	
35-39	7	100	0	0	7	
40-44	6	100	0	0	6	
Total	134	97.8	3	2.2	137	

As shown in Table 3, majority of the mothers, 58 (41.8%) who had visited VCT services were aged between 20-24 years, among which 57 (98.28%) were tested for HIV. On the other hand ANC attendees who had ages above 24 years at first VCT visit were 47 (34.4%) all most all 45 (95.74.6%) were tested for HIV.

5.5 Association between ageand HIV sero positivity

Table 3: Distribution of series tastes among ANC methods by their age group, In JHC , Jimma town Oromia region, 2013-2014

Age of mother	HIV +ve		HIV-ve		Total	X^2	P-VALUE	D_f
	No	Percent	No	Percent	No			
15-19	2	6.25	30	93.75	32			
20-24	3	5.26	54	94.74	57			
25-29	1	5.5	17	94.46	18	1.13	<0.05	5
30-34	1	7.14	13	92.86	14			

35-39	1	14.28	6	85.72	7			
40-44	0	0	6	100	6			
Total	8	5.97	126	94.03	134			

Moreover, overall HIV prevalence among the mother is 5.97, the prevalence is higher for age group 35-49 (14.2%), and no observed sero prevalence for 40-44 years age group of mothers, the difference in sero reactivity is may due to under report or this age group was may less likely to became pregnant, and there is statistically significant association between HIV sero prevalence and age group 15-44 (p - value >0.05, x^2=1.13, d_f=5)

Table 4: Association of sero status, among HIV tested ANC attends, by their gestational Ages, among ANC attend of mother in JHC,Jimma town, Oromia region, 2013/2014

Gestational age	Positive		Negative NC%		Total		X^2	P-Value	D_f
	No	%	No	%	No	%			
0-28 wks	5	6.5	72	93.5	77	57.46	0.0672	<0.005	4
29-36 wks	2	4	48	96	50	37.3			
37-42 wk	1	14.28	6	85.72	7	5.24			
Total	8	5.97	126	94.03	134	100			

As shown in Table 5, among a total of 137 mothers who had visited VCT services among which, 134 were tested for HIV, among total of 251, seventh seven (57.46%) of mother had gestational age of 0-28 wks, for which 77 (100%) had tested for HIV, ANC attendees having gestational age above 28 weeks were 60(43.8%), among which 57 (95%) were tested for HIV. s

Out of 77 (56.2%) of mothers with gestational age of 0-28 weeks 5 (6.5%), were sero reactive followed by, 29-36 weeks 2(4%) and 1 (14.28) among 37-42 weeks. There is no association in overall sero prevalence between gestational age of mothers, which has lacked statistical significance (p<0.005)

Table 5: Association of sero status among HIV tested, by gravity and parity, among ANC methods mothers, In JHC, Jimma two Oromia region, 2013/2014.

Gravidity and parity	Positive		Negative		Total		X^2	P-Value	d_f
Prim para	no	%	no	%	No	%	0.4031	p>0.1	1
	5	5.5	78	94.5	83	100			
2-5	3	5.8	46	94.2	49	100			
>5	-	-	2	100	2	100			
Total	8	6.5	126	93.5	134	100			
Primi gravida	2	5.1	68	94.9	70	100	NA	NA	NA
1-5	4	8	50	92	54	100			
Grand multipara	2	30	8	70	10	100			
Total	8		126		134				

As shown in Table 6, among the total of 137 mothers who visited VCT services, 70(51.1%) were Primigravida all of them 70 (100%) were tested for HIV, about 2 (5.1%) are sero reactive for HIV. ANC attendees having more than one gravidity were 54 (40.3%), among which 51 (94.44%) were tested for HIV. Among total of 137who visited VCT services 86(62.77%) were primi para among which, 83 (96.5%) were tested for HIV and 5 (5.5) were sero reactive for HIV. ANC attendees with more than one parity were 49 (36.56%) for which all of them were tested, among which were tested for HIV 3(5.8) of them are sero reactive. However, there is no statistically significant difference in sero prevalence between Primigravida and multigravida (P>0.1).

CHAPTER SIX

DISCUSSION

The proportion of females infected by HIV worldwide increased from time to time. Sub Saharan Africa is the one part of the world where HIV prevalence and AIDS death are higher for women than men death.

According to the study result almost all 97.8% were tested and received test result during the 1 year period. The VCT acceptance rate was high When compared to study conducted Addis Ababa in 2007, 92.6%, other study 39.2% VCT acceptance rate among pregnant mothers in Addis Ababa is identical with VCT uptake report of < 50% by Mazhani et al.(19) and VCT acceptance rate of 91.9% among ANC attendees in Cote d'ivoire in 1999 (20). This is almost similar with our study area due to similar socio demographic characteristic.

Moreover only 5.1% of the mothers who were PMTCT counseled and HIV tested, got their partner tested. This in Addis Ababa only 2.5% of the mothers who were PMTCT counseled got their partner tested.(19) In Botswana in 2002, where low involvement of men in PMTCT services were cited as a key factor (21). In Jimma health center the same factor may be the major factor for low uptake of VCT among pregnant mothers as only 5. 1% of ANC attendees got their partners tested. This slightly better than other study area this might be due to the time difference in which the study conducted.

As shown in study the VCT acceptance rate was relatively similar over the year quarters and totally 97.8% are tested. This trends in VCT up take rate among counseled ANC attendees has also significantly increased from 90% in 2002 to 96% in 2006 (19), however lower compared this study. This is because JHC and other health centers in Jimma pursue an opt-out strategy where health service providers provide counseling on MTCT of HIV to all ANC attendees and actively initiate/pursued them to test for HIV, though the client has the right to refuse, unlike the opt-in strategy where the initiation/request for HIV testing purely comes from the client side. Studies in Kenya in 2002, have shown that the use of an "opt-out" strategy (HIV testing routine, noncompulsory and provider initiated) to have a strong influence on HIV testing uptake (22). In this study the advantage of opt-out strategy was evaluated among

ANC attendees at Kisumu clinic which showed, significantly increasing HIV test acceptance rate with a switch from an opt-in to an opt-out approach in 2002.

The overall VCT uptake rate of 98.28% among age group 15-24 was higher compared to, Addis Ababa study in 2007, which is 92.6% (19) and Kenyan study in 2003, which have reported 58.6% acceptance rate of VCT among age group less than 25 years (22) and this difference in VCT acceptance rate was statistically significance (p - value >0.05, x^2=1.13, d_f=57) . Significant increasing trend in VCT utilization was also observed among maternal age group 15-19 which was identical with the study conducted in South East Ethiopia that had reported significantly higher rate among the same age group. (23)This may be because young pregnant mothers are curious for their health as well as the health of their new born, want longer healthy life and easily influenced by new information as they have relatively better access to health information compared to older age groups. The higher VCT acceptance rate among age groups 35-39 may be the effect of maturity and over time accumulated knowledge and experience from reality in life.

The overall HIV sero prevalence rate of , 5.97 % among ANC attendees in JHC significantly lower when compared with sero prevalence level of 9.5% in study conducted in Addis Ababa (19) and other study 15.6% among ANC attendees in Addis Ababa in 2001(MOH Ethiopia) and 22.4% among ANC attendees for S. Africa in 1999(24). However, looking at trends in sero-prevalence among ANC attendees in JHC by year quarters of VCT in this study, one can see significantly change (instability) trend in sero prevalence among ANC attendees in JHC, especially when we compare retrospective study in Addis Ababa(From 2000 to 2006) (19) HIV sero prevalence in each year and with base line sero prevalence level of 11.7% among ANC attendees in 2002 in this study, though mixed pattern of HIV sero prevalence was observed. The mixed pattern of HIV sero-prevalence or lack of significant decline in HIV sero-prevalence in this study can be explained by combined effect of increasing availability of HIV/AIDS preventive services including awareness creation campaigns, PMTCT and ART services etc, on one hand and lack of significant involvement of men in PMTCT services on the other. Moreover, overall HIV prevalence among the mother is 6.53, the prevalence is higher for age group 35-39, and no observed sero prevalence for 40-44 years age group of mothers, the difference in sero reactivity is may due to under report or this age group was may less

likelyto became pregnant, and there is statistically significant association between HIV sero prevalence and age group 15-44 (p - value >0.05, x^2=1.13, d_f=5)

Among total ANC attendees who were tested for HIV , 14.28 % of HIV positive in JHC were aged 35-39 years, compared with HIV sero positivity this was 1.7% in study among ANC attendees in Addis Ababa from 2002-2006 were aged between 35-39 years(19) However, no statistically significant declining trend was observed by maternal age in both age categories though similar mixed pattern can be observed, suggesting that incidence of HIV infection(new infection) is not significantly declining. 8.7,

The difference in declining trend in HIV sero prevalence may be the effect of increasing awareness about MTCT of HIV among mothers attending ANC in JHC . However studies on trend in HIV sero prevalence based on gestational age are generally limited to make comparisons.

According to this study about 5.1% of sero reactive were Primigravida and 8 % were multigravida mothers. This was, 5.9% and 11.6% for study conducted in Addis Ababa were HIV positive respectively.(19) This difference is however not statistically significant. Looking at the trend in HIV sero prevalence among mothers with different gravidity and comparing with Addis Ababa, the difference was may due to the effect of increased awareness about HIV/AIDS and care with increasing age among older women in Jimma and decreasing risky sexual contacts with increasing age.

CHAPTER SEVEN
CONCLUSION AND RECOMMENDATION

7.1. Conclusion

In this study it has is shown that the percentage of ANC attendees who have got their partners HIV tested are extremely low. More over little is known whether HIV positive mothers share their test results with their male partner. Maternal factors such as primigravidity and primiparity were found to be not associated with increasing trend in voluntary HIV testing after counseling. Maternal age in general was found to not affect trends in HIV sero-prevalence among ANC attendees in JHC. Almost all ANC attendees volunteered for HIV testing had undergone HIV testing only once in the course of their pregnancy

7.2Recommendation

1. Education and service delivery strategies such as innovative ways of awareness creation methods appropriate for pregnant mothers should be developed since the conventional health education methods may not be appropriate for pregnant mothers, besides organizing outreach programs in order to reach pregnant mothers who do not visit modern health services at their home etc., in addition to minimizing missed opportunities among those attending ANC services.
2. It is necessary to do 2-3 repeat HIV tests during the course of pregnancy even if there is no evident risk factor on risk assessment. This is because most of ANC attendees got tested in the first trimester and yet HIV sero-prevalence increased with gestational age according to this study. Hence repeat HIV test detects those ANC attendees who might get HIV infected in the course of pregnancy and benefited from PMTCT program.
3. Further researches have to be conducted to identify important factors responsible for low men involvement in PMTCT program and come up with better preventive strategies.

4. To maintain the current increasing trend in voluntary HIV testing practice among Primigravida and primipara ANC attendees, awareness creation campaigns on PMTCT of HIV and available services have to be further strengthened and expanded to secondary schools and other youth centers.
5. The poor PMTCT data quality observed at J health center needs to be improved. To utilize this data set for estimation of national or Regional HIV/AIDS prevalence and use them in tracking trends, PMTCT program registration formats need to be filled to according to its standardized in terms of variables to be recorded.

ANNEX I

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ANNEX II
QUESTIONNAIRE
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Record check list of a one year retrospective study to determine the prevalence of HIV/AIDS among mother attended ANC clinical In Jimma MC from January 1 to December 31, 2013.

Part Maternal characteristics

1. Client identification number (code) _____
2. Place of residence _____
3. Date of test _____
4. Gestation age _____
5. Parity _____
6. Marital status _____

Part II HIV test

1. Is it first or repeated test _____

   First _____SSS

   Repeated _____
2. Did the mother undergo HIV test? _____

   Yes _____

   No _____
3. If yes what was result _____
4. Did the mother receive post test result?

Part III PMTCT service

1. Did the mother receive post test result? _____
2. If the mother is HIV positive what service did she receive?

   2.1 Referred for ART service _____

2.2 Counseled about infant testing _____

2.3 Referred for care and support _____

2.4 Counseled for post partner (F.P) _____

Part IV Partner service

1. Mother brought partner for testing _____
2. Partner received counseling _____
3. Partner received blood testing _____
4. Partner blood test result

No	ID.No	Register date	Age	Marital status	Date of test	Parity	Test Age	HIV test Yes	No	First/repeated test	Past test	Reffered to ANC	Counseled for IBF of +ve	Reffered for post	Mother brought	Partner counseled	HIV test

Name of the collectors _____

Date: _____

Sign _____

Checked by _____

Date _____

Sign _____

ANTENATAL CLINIC IN JIMMA HEALTH CENTER, JIMMA TOWN, OROMIA REGION, SOUTH WEST ETHIOPIA

BY:-

ABDULHALIM MOHAMMED

A RESEARCH PAPER SUBMITTED TO JIMMA UNIVERSITY, COLLEGE OF PUBLIC HEALTH AND MEDICAL SCIENCES, DEPARTMENT OF NURSING, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR BACHELOR OF SCIENCE DEGREE IN NURSING

JUNE, 2014

JIMMA, ETHIOPIA

JIMMA UNIVERSITY

COLLEGE OF PUBLIC HEALTH AND MEDICAL SCIENCES,

DEPARTMENT OF NURSING

PREVALENCE OF HIV INFECTION AMONG PREGNANT WOMEN ATTENDING ANTENATAL CLINIC IN JIMMA HEALTH CENTER, JIMMA TOWN, OROMIA REGION, SOUTH WEST ETHIOPIA

BY:-

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ADVISOR:

MR. GUGSA NEMERA (BSCN, MSCN)

JUNE, 2014

JIMMA, ETHIOPIA

ABSTRACT

Background: The proportion of females infected by HIV worldwide increased from time to time. Sub Saharan Africa is the one part of the world where HIV prevalence and AIDS death are higher for women than men death. African women are the group most sever affected by the epidemic accounting 66% of those infected between the ages of 15-24 years. Pregnancy provides a unique opportunity for implementing HIV infection prevention strategies in women. Prevalence of HIV in pregnancy would indicate the HIV prevalence in female population and to some extent in general population mothers to child transmission

Objective: The main objective of this study was to determine the HIV sero-prevalence among pregnant women attending JHC ANC clinic.

Methods: A one year record based retrospective analysis was carried out from April 25-30 in Jimma health center. Sample population was selected by systematic random sampling technique from patient record reviews according to serial number every 3 consecutive registration number. Data wascollected usingstructuredcheck lists. The collected data was analyzed manually by scientific calculator and was present by using table and charts.

Result:A total of 137 mothers record reviewed and almost all 134(97.8%) of them were tested. Majority of the mothers 90(65.4%) who accepted HIV testing were aged between 15 to 24 years. One hundred forty one (56.2%) had gestational age between 0-28 week. Only7(5.1%) of the mothers who were PMTCT counseled got their partner tested.There is no association in overall sero prevalence between gestational age of mothers, which has lacked statistical significance ($p<0.005$)

Conclusions and Recommendation: The percentageof ANC attendees who have got their partners HIV tested are extremely low. overall HIV prevalence among the mother is 5.97, the prevalence is higher for age group 35-49 (14.2%), and no observed sero prevalence for 40-44 years age group of mothers, the difference in sero reactivity is may due to under report or this age group was may less likely to became pregnant, and there is statistically significant association between HIV sero prevalence and age group 15-44.The poor PMTCT data quality observed at J health center needs to be improvedand maintain the current increasing trend in voluntary HIV testing practice among Primigravida and primipara ANC attendees, awareness creation campaigns on PMTCT of HIV and available services have to be further strengthened and expanded

Key words: Prevalence of HIV infection among pregnant women.

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ABBREVIATIONS

ANC: Antenatal care

JHC: JimmaHealth Center

AIDS: Acquired immune deficiency syndrome

HIV: Human immune deficiency virus

PW: Pregnant women

PMTCT:Prevention of mother to child transmission

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CHAPTER ONE
INTRODUCTION

1.1Background information

Although HIV/AIDS is Global epidemic, the majority of people living with HIV/AAIDS are Sub Saharan Africa, Thirty eight million people living with HIV worldwide in 2006. Sub Saharan Africa is a home for 25 million people living with HIV/AIDS. In the early days of the epidemic, men vast it out numbers women among people infected with HIV. It looks along time for the world to admit HIV as a threat to women. The proportion of females infected by HIV worldwide increased from time to time. Sub Saharan Africa is the one part of the world where HIV prevalence and AIDS death are higher for women than men death (1, 2).

Nearly, 50% of the 40 million people living with HIV/AIDS are female. In sub Saharan Africa 59% of those infected with virus are females. Studies in sub Saharan Africa have shown that there are 14 infected women for every 10 infected men (1, 3).According to the Ethiopia demographic and health serves (EDHS), the estimated adult HIV prevalence in 2005 was 1.4%. The prevalence in women is nearly 2% while the prevalence among male was under 1% (5).

As HIV infection in women occur primary donning their reproductive years. Pregnancy provides a unique opportunity for implementing HIV infection prevention strategies in women. Prevalence of HIV in pregnancy would indicate the HIV prevalence in female population and to some extent in general population mothers to child transmission, by for the most significant route of transmission of HIV in children below the age of 15 years (6).
Women are disproportional at risk because they are biologically more susceptible to HIV infection than men. Data from number of studies revealed that male to female transmission during sex is 2-5 times greater in female, if no sexual transmission infection present (7).

1.3 Statement of the problem

Human immune virus /Acquired immune deficiency syndrome (HIV/AIDS) has spread throughout the world causing on told suffering and death and creating profound development challenge. It has killed more than 25 million people, since it was first recognized in 1981 (8).Since the HIV/AIDS epidemic began, almost 58million peoplethroughout the world have been intended with HIV and almost 22 million people have died due to the disease. (9)

HIV/AIDS has become a serious global health and psychosocial crisis, with at least 40 million infected individuals worldwide: It is not only strikes a adults, but alsochildren and adolescent. In the third worldcountries, more than 40 % of all live births involveHIV infected children. Epidemiological data from the US center of disease control (CDC) and prevention indicate thatapproximately 950.000 us citizen are infected with HIV, and 280.000 [30 0/0] don't know they are infected (CDC,2004] [10] .The HIV AIDSepidemics are not of thelargest public health crises of twenty one [21 century). While the epidemic has spread over two decades a core or valline for HIV has remain elusive (11).

HIV/AIDS is more prevalence among female adults under the age of 40 in nearly all age groups in the world. Roughly, 4 is very 5 people HIV/AIDS age 20-24 are women's only one third of people HIV/AIDS age 25-29 are men (12).Thirty eight million people living with HIV/AIDS worldwide in 2006. Sub Saharan Africa is a home for 25 million people living with HIV/AIDS. HIV/AIDS is a major public health concern and cause of death in Africa.

Although Africa is in habited by just over 14.7% of the world's population, it is estimated to have more than 88% of people living with HIV and 92% of all AIDS deaths in 2007. (13)
Throughout the world, the unequal social status of women places them at higher risk for contracting HIV- women are at disadvantage when it comes to access to information about the ability to negotiate date sexual encounters and access for HIV/AIDS once infected. As a result of these inequalities and epidemic dynamics the proportion of women among people living and HIV/AIDS is rising in many regions (17).

HIV infection was the 5th leading cause of death among all women aged 35-44 years and the 6th leading cause of death among all women ages 25-34 years (15).The HIV/AIDS epidemic interests with the problem of maternal mortality in many circumstances in sub-SaharanAfrica. The extent of contribution in HIV/AIDS maternal mortality is difficult to quantity at the HIV states of pregnant women in sub region is not always known (16).

CHAPTER TWO
LITERATURE REVIEW

The HIV prevalence estimates have come under interested secreting in recent years and some countries have revised their estimated down words as more reliability data have become available. For example, the estimated number of HIV infected people in India was revised down ward from 5.7 million to 2.5 million in 2007 (11).In Thailand prevalence in women in antenatal clinic has climbed from 0% 1989 to 2.3% in 1995 and continues to rise, similarly increases are reported from some India cities, Latin America and the Caribbean (12).

In a study on epidemiology and detect of HIV-1 among pregnant women in United Kingdom, the prevalence of HIV among mothers in London rose six told between 1989 and 1996 (0.19% of women tested 1 in 520 in 1996) a part from in Eden burgh and Dundee levels remained low. In Scotland (0.025% 1 in 3970) and ease where in United Kingdom (0.016% in 1930) (18).Similar down word adjustments in HIV prevalence estimates have also been made for several countries in sub Saharan Africa. As consequences, UNAIOS and world health organization have recently lowered the global estimate of number of HIV infection people from 39.5 million in 2006 to 33.2 million in 2007 (11).

Southern Africa remains the words affected region in the world, with data from antenatal clinic in urban area in 2002 shooing HIV prevalence of over 25% following a rapid increase from just 5% in 1990 (10).In Swaziland the average prevalence among pregnant mother was 39% in 2002. The same is true in Botswana, having 35% to 37% ANC prevalence between 2001 and 2003 (18).In Southern Africa reduction in HIV prevalence are specially striking in Zimbabwe, where HIV prevalent in pregnant women attending antennal clinic fell from 26% in 2002 to 18% in 2006. In Botswana, a drop in HIV prevalence among pregnant women 15-49 years old (from 25% in 2001 to 18% in 2006) suggest that the rate of new infection could be solving. The epidemics in Malawi and Zambia appear to have stabilized, and some evidence of favorable behavior changes and declining HIV prevalence among women using antenatal services in some urban areas. In Lesotho and parts of Mozambique HIV prevalence among pregnant women is increasing. The largest HIV epidemic in western African in

Nigeria appears to be stabilized at 3.1% according to surveys of HIV infection from antenatal clinic (19).

Uganda is among the Africa countries where the HIV epidemic was first recognized and among the location where it is the most sever. In 1986 HIV Sero-prevalence among antenatal clinic attendees in Kampala, the capital city was found to be already about 15%. The official requires by the end of 1994 stated that there were estimated 1.3 million adults and children (20)

Data from three other semi urban HIV sentinel surveillance sit among antenatal clinic attendees mbarar. Torero, and Mable, where no behavioral data are available disclose divergent HIV trends. In mbarar after peaning at 30.2% (62 of 205) in 1991, HIV prevalence decline to a level of 15% (35 of 233) in 19996, a trend similar to the one describing in Kampala and Jinza , the prevalence in to rondo and Mable have remained relatively stable in range of 9-13% (20).

In Kenya , Malawi Rwanda, Namibia , South Africa the United Tanzania, Zimbabwe over 10% of women attending clinic in urban areas are HIV positive with a rate of almost 60% in some cities (21).HIV prevalence among pregnant women decline in several places. In Addis Ababa prevalence has fallen from peak of 24% in 1995 to 11% in 2003 (23).

Recently data from AIDS in Ethiopia 6th report of the ministry of health indicated that HIV prevalence varies across from 0.0% to 24.8% , and crude data suggest that 5.3% of antenatal care attendees were HIV positive in all age group (9.6%) urban and 2.2% regal) (29).
Moreover according to 2006 ministry of health (MOH) report in Ethiopia a total of 105.675 HIV positive pregnancies and an estimated 30.338 HIV positive birth accrued in 2005 among 0-14 years there were 30.308 new HIV infections, 21.707 new AIDS case and about 744.088 children were orphans due to AIDS the report also indicates an estimated number of 38.192 HIV positive pregnancies and 11.175 births occurred in Amhara reign furthermore some 293.169 AIDS related orphans were estimated 124.

1.2. Significance of Study

In order to provide the quality health care and Prevention of maternal to child transmission of HIV infection the prevalence of HIV among pregnant women should be continuously assessed among pregnant women's. In addition to these estimating sero-prevalence in pregnant women is used to initiate the effective and timely prevention that reduce infection to babies and also studying sero-prevalence in this group is used to draw appropriate program and policy used to strengthen efforts towards PMTCT and also indicates sero-prevalence of HIV among females and to some extent general populations more over the finding from the study was used as secondary data or base line data for those who wanted to conduct for the study in the area of the problem.

CHAPTER THREE

OBJECTIVES

3.1 General Objectives

To assess the prevalence of HIV infection among pregnant mother attending antenatal clinics in Jimma health center, Jimma zone, Oromia region SWE June 2014.

3.2 Specific Objectives

3.2.1 To determine HIV sero-prevalence rate of the year among ANC attendees

3.2.2 To identify factors associated with sero-positivity, among ANC attendees

CHAPTER FOUR

METHOD AND MATERIALS

4.1 Study area and study period

The study was conducted in Jimma health center found in Jimma town, from April25-30, 2014. Jimma town is found Jimma zone Oromia regional state, is a capital of Jimma zone and located at about 346 Km in south west of capital city, Addis Ababa. According to the 2007 census of Oromia region population size of urban Kebeles, it has a population of 120,960 (Males are 60,824 and Females are 60,136), 30,751 housing units and 32, 191 households. It has 2 woreda and 13 Kebeles, and. The climate of Jimma town was woynadega, with annual rainfall of 3700 mm and altitude of 1500 - 17000 above sea level.

Currently there is 1 specialized Teaching Hospital, 1Defense Hospital, 1 police Hospital, 1 Primary Hospital and4 Health centers found in Jimma town.Jimmahealth center is one of the three health center and currently it have total 14 health workers, located in mentina kebele, Jimma town.

4.2 Study design.

A one year records based retrospective study wasemployed. For mother attended ANC from April 2,2013 to April 2, 2014.

4.3 Population

4.3.1 Source of population

All records of pregnant motherswho were visited Jimma health center from April 2, 2013 to April 2, 2014.

4.3.2 Study population

All records pregnant women visited ANC clinics of Jimma health center

from April 2, 2013 to April 2, 2014.

4.4 Sample size determination and sampling technique

4.4.1 Sample size determination

Selected pregnant women visited, ANC clinics of Jimma health center during indicated period was involved in the study.

The sample size determined by the number of all pregnant women who has been visited ANC clinics during the period and based on population prevalence (p=11%) from Addis Ababa, statically estimation is made by using sample size discriminations formal as follows

$$N = \frac{\left(Z\,{}^{\alpha}/_{2}\right)^2 P(1-P)}{d^2}$$

$$N = \frac{(1.96)^2 0.11(1-0.11)}{(0.05)^2} = 169$$

Where,

- N=sample size
- Z α/2= level of significant which is 1.96
- p= population sero- prevalence for ANC attending mother Addis Ababa (11%)
- d =degree of margin error which is 0.05

Since our source population is less than 10,000, which are 411we use the correction formula as follows.

$$\text{nf} = \frac{n}{1+\frac{n}{N}}$$

$$\text{nf} = \frac{384}{1+\frac{384}{411}} = 137$$

Where,

- n_f= final sample size
- n=total study population which is 384
- N=total number of women who visited ANS in JHC in last year.

4.4.2 Sample technique

Sample population were selected by systematicrandom sampling technique from patient record reviews according to serial number every 3 consecutive registration number.

4.5 study variable

Independent variable	Dependant variable
-Age	- prevalence of HIV
- Sex	
- Marital status	
- Religion	
-Gravidity	
- Parity	

4.6 Data collection process and technique

Recorded check list prepared by collecting to different literature was used to collect data.

Data collection procedure

Data was collected by reviewing ANC record by using record check lists two year four nursing students was selected to collect data after the get proper training and orientation by principal investigator in how to record and fill data on check list.

4.7 Data quality control

Before beginning of actual data collection the prepared cheek lists and whore methods was presented on some experts to find for any errors of found to be corrected at the end of each data collection day the cheek list was cheeked for consistency and completeness and close supervision was carried out during data collection by principal investigation.

4.8 Data proceeding and analysis

The collected data was checked for completenessat the end of each data collection day and data was analyzed using scientific calculator and manually prepared tally sheet.

4.9 Ethical consideration

Before proceeding with actual data collection process an official permission letter was obtained from JimmaUniversity. SKP office and brought center to get permission for the study the purpose of the study was explained for administrative bodies and for professionally assigned to ANC clinic. Also data was kept can confidentially and finally reported to the concerned body for possible interventions.

4.10 Limitation of the study

- Positive client may recorded as negative due to window period.
- Access to general ANC logbooks, PMTCT counseling logbooks and ANC follow up cards was limited since they were misplaced or being used by ANC staff at the time of data collection. Data varied in quality (handwriting was not always clear). The variables recorded in the logbooks of PMTCT were not complete. For example, gravidity, parity, occupation, and marital status data were missing in PMTCT counseling log books. The worst was with individual ANC follow up cards which were the only data sources for such variables as marital status, occupation and other socio economic variables. Large number of those cards was completely lost at all visited health centers.

4.11 Dissemination of the result

After the completion of the study, the finding report after being defended at Jimma University, it was submitted to Jimma university SRP office, and department of nursing. The copy will also be sent to advisors of the project and the Jimma town health bureau.

4.12 Operational Definition

AIDS – is a disease of the human immune system enable the immune system to weak to right off infection

ANC: The care of pregnant women during the time in the maternity cycle that begins with conception and ends with the onset of labor.

HIV: is a virus that gradually attacks immune system cells and finally cause AIDS.

HIV infection: Presence of HIV antibodies in the blood as is detected by HIV test rit.

Sero-prevalence: the number of person in a population WHO is positive for a specific disease based on serological specimen (blood serum), the overall occurrence of a defined population at one time is measured by blood tests.

CHAPTER FIVE

RESULTS

5.2 Maternal Socio Demographic Characteristics

A total of 137 women's record selected for the study, majority of the mother 90 (65.4%) was in the age between 15-24. Among the mother who visited ANC majority of them 77 (56.2%)were in the gestational age between 0-28 week.Among the total of 137 ANC attendees whose residence were known 136 (99.3%) permanently lived in Jimma, while only 1 (0.7%) lived out of Jimma. Primigravida and Primiparous mothers were 86(62.77%) and 70 (51.1%) respectively.

Table:-6 Distribution of Maternal Socio-demographic and HIV–test related Characteristics among counseled ANC attendees in Jimma health centers, Jimma town, Oromia region 2014.

Variables		Number	Percent
Maternal age	15-24	90	65.4
	>24	47	34.6
Gestational age	0-28 wks	77	56.2
	29-36 wks	52	37.95
	37-42 wks	8	5.85
Place of residence	Jimma	136	99.3
	Out of Jimma	1	0.7

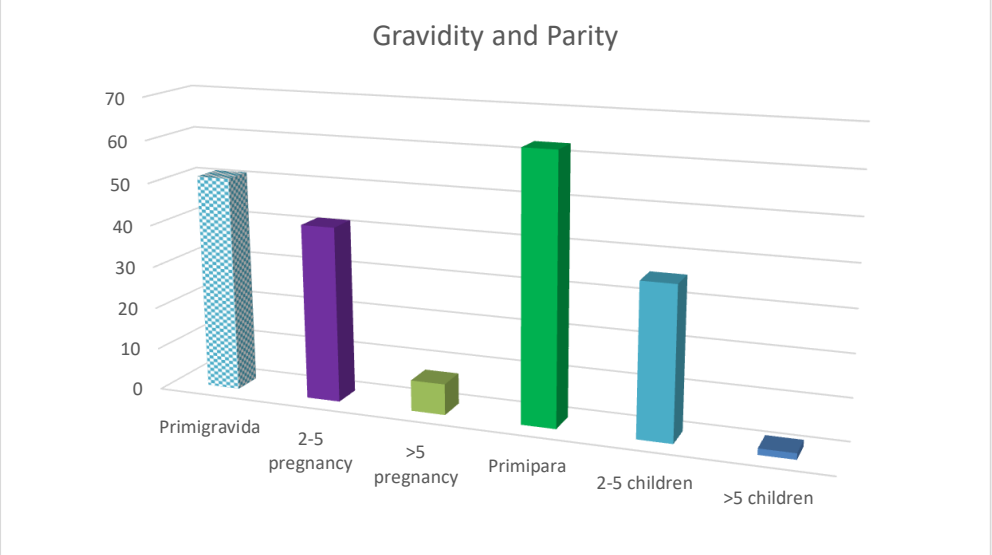

Figure: - 1gravidity and parity among counseled ANC attendees in Jimma health centers, Jimma town, Oromia region 2014.

5.2 HIV testing status

Majority of the mothers 90 (65.4%) who accepted HIV testing were aged between 15 to 24 years. Seventy seven (57.46%) had gestational age at first HIV counseling and testing of 0-28 weeks. all of them counseled for HIV/AIDS testing. Among almost all 134(97.8%) were tested and received test result during the 1 year period. Almost all HIV tested ANC attendees took their HIV test result the same day they were tested though it was not known whether they shared the information with their partners or not. However, 90.5% (124) of mothers who had undergone HIV test were tested only once without having repeat test during the course of pregnancy, though, there is a wide possibility of acquiring HIV during pregnancy. Moreover only 7 (5.1%) of the mothers who were PMTCT counseled got their partner tested.

Table:-2 Distribution of Maternal HIV–test related Characteristics among counseled ANC attendees in Jimma health centers, Jimma town, Oromia region 2014.

Maternal HIV tested status	Tested	134	97.8
	Not tested	3	2.2
Frequency of HIV testing	Once only	124	90.5
	Repeated test	13	9.5
Receiving test results	Receive	134	97.8
	Not received	3	2.2
Partner of testing	With tested partner	7	5.1
	Without tested partner	130	94.9
PMTCT	Counseled	137	100
	Not counseled	0	0

Comment [w1]:

5.3 Trends Of HIV Testing

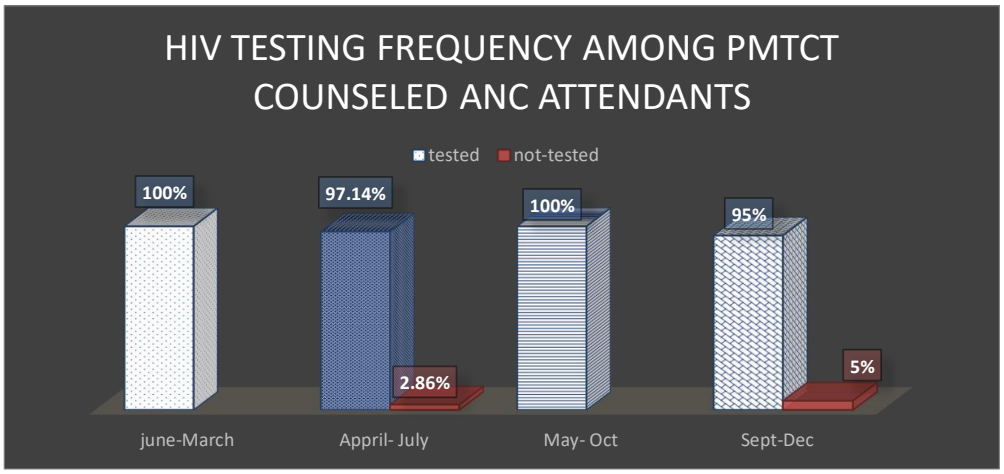

Figure:- 2HIV testing frequency among PMTCT counseled ANC attendees in Jimma health centers, Jimma town, Oromia region 2014.

As shown in table 2 the VCT acceptance rate was relatively similar over the year quarters and totally 134 (97.8%) are tested for HIV /AIDS

5.4 Distribution of HIV testing

Table7: Distribution of HIV testing among PMTC counseled mother ANC attending ANC , by their maternal age HIV test, among In JHC, , Jimma town, Oromia region , 2013/2014.

Age group	Tested		No tested		Total	
	No	Percent	No	Percent	No	%
15-19	32	100	-	-	32	
20-24	57	98.28	1	1.72	58	41.8
25-29	18	94.73	1	5.27	19	
30-34	14	93.33	1	6.77	15	
35-39	7	100	0	0	7	
40-44	6	100	0	0	6	
Total	134	97.8	3	2.2	137	

As shown in Table 3, majority of the mothers, 58 (41.8%) who had visited VCT services were aged between 20-24 years, among which 57 (98.28%) were tested for HIV. On the other hand ANC attendees who had ages above 24 years at first VCT visit were 47 (34.4%) all most all 45 (95.74.6%) were tested for HIV.

5.5 Association between ageand HIV sero positivity

Table 8: Distribution of series tastes among ANC methods by their age group, In JHC , Jimma town Oromia region, 2013-2014

Age of mother	HIV +ve		HIV-ve		Total	X^2	P-VALUE	D_f
	No	Percent	No	Percent	No			
15-19	2	6.25	30	93.75	32			
20-24	3	5.26	54	94.74	57			
25-29	1	5.5	17	94.46	18	1.13	<0.05	5
30-34	1	7.14	13	92.86	14			

35-39	1	14.28	6	85.72	7			
40-44	0	0	6	100	6			
Total	8	5.97	126	94.03	134			

Moreover, overall HIV prevalence among the mother is 5.97, the prevalence is higher for age group 35-49 (14.2%), and no observed sero prevalence for 40-44 years age group of mothers, the difference in sero reactivity is may due to under report or this age group was may less likely to became pregnant, and there is statistically significant association between HIV sero prevalence and age group 15-44 (p - value >0.05, x^2=1.13, d_f=5)

Table 9: Association of sero status, among HIV tested ANC attends, by their gestational Ages, among ANC attend of mother in JHC,Jimma town, Oromia region, 2013/2014

Gestational age	Positive		Negative NC%		Total		X^2	P-Value	D_f
	No	%	No	%	No	%			
0-28 wks	5	6.5	72	93.5	77	57.46	0.0672	<0.005	4
29-36 wks	2	4	48	96	50	37.3			
37-42 wk	1	14.28	6	85.72	7	5.24			
Total	8	5.97	126	94.03	134	100			

As shown in Table 5, among a total of 137 mothers who had visited VCT services among which, 134 were tested for HIV, among total of 251, seventh seven (57.46%) of mother had gestational age of 0-28 wks, for which 77 (100%) had tested for HIV, ANC attendees having gestational age above 28 weeks were 60(43.8%), among which 57 (95%) were tested for HIV. s

Out of 77 (56.2%) of mothers with gestational age of 0-28 weeks 5 (6.5%), were sero reactive followed by, 29-36 weeks 2(4%) and 1 (14.28) among 37-42 weeks. There is no association in overall sero prevalence between gestational age of mothers, which has lacked statistical significance (p<0.005)

Table 10: Association of sero status among HIV tested, by gravity and parity, among ANC methods mothers, In JHC, Jimma two Oromia region, 2013/2014.

Gravidity and parity	Positive		Negative		Total		X^2	P-Value	d_f
Prim para	no	%	no	%	No	%	0.4031	p>0.1	1
	5	5.5	78	94.5	83	100			
2-5	3	5.8	46	94.2	49	100			
>5	-	-	2	100	2	100			
Total	8	6.5	126	93.5	134	100			
Primi gravida	2	5.1	68	94.9	70	100	NA	NA	NA
1-5	4	8	50	92	54	100			
Grand multipara	2	30	8	70	10	100			
Total	8		126		134				

As shown in Table 6, among the total of 137 mothers who visited VCT services, 70(51.1%) were Primigravida all of them 70 (100%) were tested for HIV, about 2 (5.1%) are sero reactive for HIV. ANC attendees having more than one gravidity were 54 (40.3%), among which 51 (94.44%) were tested for HIV. Among total of 137who visited VCT services 86(62.77%) were primi para among which, 83 (96.5%) were tested for HIV and 5 (5.5) were sero reactive for HIV. ANC attendees with more than one parity were 49 (36.56%) for which all of them were tested, among which were tested for HIV 3(5.8) of them are sero reactive. However, there is no statistically significant difference in sero prevalence between Primigravida and multigravida (P>0.1).

CHAPTER SIX

DISCUSSION

The proportion of females infected by HIV worldwide increased from time to time. Sub Saharan Africa is the one part of the world where HIV prevalence and AIDS death are higher for women than men death.

According to the study result almost all 97.8% were tested and received test result during the 1 year period. The VCT acceptance rate was high When compared to study conducted Addis Ababa in 2007, 92.6%, other study 39.2% VCT acceptance rate among pregnant mothers in Addis Ababa is identical with VCT uptake report of < 50% by Mazhani et al.(19) and VCT acceptance rate of 91.9% among ANC attendees in Cote d'ivoire in 1999 (20). This is almost similar with our study area due to similar socio demographic characteristic.

Moreover only 5.1% of the mothers who were PMTCT counseled and HIV tested, got their partner tested. This in Addis Ababa only 2.5% of the mothers who were PMTCT counseled got their partner tested.(19) In Botswana in 2002, where low involvement of men in PMTCT services were cited as a key factor (21). In Jimma health center the same factor may be the major factor for low uptake of VCT among pregnant mothers as only 5. 1% of ANC attendees got their partners tested. This slightly better than other study area this might be due to the time difference in which the study conducted.

As shown in study the VCT acceptance rate was relatively similar over the year quarters and totally 97.8% are tested. This trends in VCT up take rate among counseled ANC attendees has also significantly increased from 90% in 2002 to 96% in 2006 (19), however lower compared this study. This is because JHC and other health centers in Jimma pursue an opt-out strategy where health service providers provide counseling on MTCT of HIV to all ANC attendees and actively initiate/pursued them to test for HIV, though the client has the right to refuse, unlike the opt-in strategy where the initiation/request for HIV testing purely comes from the client side. Studies in Kenya in 2002, have shown that the use of an "opt-out" strategy (HIV testing routine, noncompulsory and provider initiated) to have a strong influence on HIV testing uptake (22). In this study the advantage of opt-out strategy was evaluated among

ANC attendees at Kisumu clinic which showed, significantly increasing HIV test acceptance rate with a switch from an opt-in to an opt-out approach in 2002.

The overall VCT uptake rate of 98.28% among age group 15-24 was higher compared to, Addis Ababa study in 2007, which is 92.6% (19) and Kenyan study in 2003, which have reported 58.6% acceptance rate of VCT among age group less than 25 years (22) and this difference in VCT acceptance rate was statistically significance (p - value >0.05, x^2=1.13, d_f=57) . Significant increasing trend in VCT utilization was also observed among maternal age group 15-19 which was identical with the study conducted in South East Ethiopia that had reported significantly higher rate among the same age group. (23)This may be because young pregnant mothers are curious for their health as well as the health of their new born, want longer healthy life and easily influenced by new information as they have relatively better access to health information compared to older age groups. The higher VCT acceptance rate among age groups 35-39 may be the effect of maturity and over time accumulated knowledge and experience from reality in life.

The overall HIV sero prevalence rate of , 5.97 % among ANC attendees in JHC significantly lower when compared with sero prevalence level of 9.5% in study conducted in Addis Ababa (19) and other study 15.6% among ANC attendees in Addis Ababa in 2001(MOH Ethiopia) and 22.4% among ANC attendees for S. Africa in 1999(24). However, looking at trends in sero-prevalence among ANC attendees in JHC by year quarters of VCT in this study, one can see significantly change (instability) trend in sero prevalence among ANC attendees in JHC, especially when we compare retrospective study in Addis Ababa(From 2000 to 2006) (19) HIV sero prevalence in each year and with base line sero prevalence level of 11.7% among ANC attendees in 2002 in this study, though mixed pattern of HIV sero prevalence was observed. The mixed pattern of HIV sero-prevalence or lack of significant decline in HIV sero-prevalence in this study can be explained by combined effect of increasing availability of HIV/AIDS preventive services including awareness creation campaigns, PMTCT and ART services etc, on one hand and lack of significant involvement of men in PMTCT services on the other. Moreover, overall HIV prevalence among the mother is 6.53, the prevalence is higher for age group 35-39, and no observed sero prevalence for 40-44 years age group of mothers, the difference in sero reactivity is may due to under report or this age group was may less

likelyto became pregnant, and there is statistically significant association between HIV sero prevalence and age group 15-44 (p - value >0.05, x^2=1.13, d_f=5)

Among total ANC attendees who were tested for HIV , 14.28 % of HIV positive in JHC were aged 35-39 years, compared with HIV sero positivity this was 1.7% in study among ANC attendees in Addis Ababa from 2002-2006 were aged between 35-39 years(19) However, no statistically significant declining trend was observed by maternal age in both age categories though similar mixed pattern can be observed, suggesting that incidence of HIV infection(new infection) is not significantly declining. 8.7,

The difference in declining trend in HIV sero prevalence may be the effect of increasing awareness about MTCT of HIV among mothers attending ANC in JHC . However studies on trend in HIV sero prevalence based on gestational age are generally limited to make comparisons.

According to this study about 5.1% of sero reactive were Primigravida and 8 % were multigravida mothers. This was, 5.9% and 11.6% for study conducted in Addis Ababa were HIV positive respectively.(19) This difference is however not statistically significant. Looking at the trend in HIV sero prevalence among mothers with different gravidity and comparing with Addis Ababa, the difference was may due to the effect of increased awareness about HIV/AIDS and care with increasing age among older women in Jimma and decreasing risky sexual contacts with increasing age.

CHAPTER SEVEN
CONCLUSION AND RECOMMENDATION

7.1. Conclusion

In this study it has is shown that the percentage of ANC attendees who have got their partners HIV tested are extremely low. More over little is known whether HIV positive mothers share their test results with their male partner. Maternal factors such as primigravidity and primiparity were found to be not associated with increasing trend in voluntary HIV testing after counseling. Maternal age in general was found to not affect trends in HIV sero-prevalence among ANC attendees in JHC. Almost all ANC attendees volunteered for HIV testing had undergone HIV testing only once in the course of their pregnancy

7.2Recommendation

6. Education and service delivery strategies such as innovative ways of awareness creation methods appropriate for pregnant mothers should be developed since the conventional health education methods may not be appropriate for pregnant mothers, besides organizing outreach programs in order to reach pregnant mothers who do not visit modern health services at their home etc., in addition to minimizing missed opportunities among those attending ANC services.
7. It is necessary to do 2-3 repeat HIV tests during the course of pregnancy even if there is no evident risk factor on risk assessment. This is because most of ANC attendees got tested in the first trimester and yet HIV sero-prevalence increased with gestational age according to this study. Hence repeat HIV test detects those ANC attendees who might get HIV infected in the course of pregnancy and benefited from PMTCT program.
8. Further researches have to be conducted to identify important factors responsible for low men involvement in PMTCT program and come up with better preventive strategies.

9. To maintain the current increasing trend in voluntary HIV testing practice among Primigravida and primipara ANC attendees, awareness creation campaigns on PMTCT of HIV and available services have to be further strengthened and expanded to secondary schools and other youth centers.
10. The poor PMTCT data quality observed at J health center needs to be improved. To utilize this data set for estimation of national or Regional HIV/AIDS prevalence and use them in tracking trends, PMTCT program registration formats need to be filled to according to its standardized in terms of variables to be recorded.

ANNEX I

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ANNEX II
QUESTIONNAIRE
JIMMA UNIVERSITY

COLLEGE OF PUBLIC HEALTH AND MEDICAL SCIENCES

DEPARTMENT OF NURSING

Record check list of a one year retrospective study to determine the prevalence of HIV/AIDS among mother attended ANC clinical In Jimma MC from January 1 to December 31, 2013.

Part Maternal characteristics

7. Client identification number (code) _____
8. Place of residence _____
9. Date of test _____
10. Gestation age _____
11. Parity _____
12. Marital status _____

Part II HIV test

5. Is it first or repeated test _____

   First _____SSS

   Repeated _____
6. Did the mother undergo HIV test? _____

   Yes _____

   No _____
7. If yes what was result _____
8. Did the mother receive post test result?

Part III PMTCT service

3. Did the mother receive post test result? _____
4. If the mother is HIV positive what service did she receive?

   2.1 Referred for ART service _____

2.2 Counseled about infant testing _____

2.3 Referred for care and support _____

2.4 Counseled for post partner (F.P) _____

Part IV Partner service

5. Mother brought partner for testing _____
6. Partner received counseling _____
7. Partner received blood testing _____
8. Partner blood test result

No	ID.No	Register date	Age	Marital status	Date of test	Parity	Test Age	HIV test Yes	No	First/repeated test	Past test	Reffered to ANC	Counseled for IBF of +ve	Reffered for post	Mother brought	Partner counseled	HIV test

Name of the collectors _____

Date: _____

Sign _____

Checked by _____

Date _____

Sign _____