

Assessment of Knowledge and Attitude towards Prevention of Mother-To-Child Transmission of HIV/AIDS among Antenatal Care Client in Mizan-Aman Town Public Health Facilities, Benchi-Maji Zone, South Nation Nationalities and People Region, Southwest Ethiopia, 2017

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Received date: November 29, 2017; Accepted date: December 26, 2017; Published date: January 02, 2018

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Abstract

Background: Acquired immunodeficiency syndrome epidemic is the greatest challenge to human kind in the 21st century. Mother-to-child transmission of human immune deficiency virus infection is the transmission of the virus from an HIV-infected mother to her child during pregnancy, labour, delivery or breastfeeding.

Objective: To assess knowledge and attitude towards mother-to-child transmission of Human immunodeficiency virus among pregnant women attending ante natal care at Mizan-Aman town public health facilities, Benchi-Maji zone, southwest Ethiopia, 2017.

Methods: Health facility based cross sectional study was conducted at Mizan-Aman town health facilities from April 25-May 22, 2017. Systematic sampling technique was used select all pregnant women who fulfil the inclusion criteria and attending 1st antenatal care visit during the study period was included in the study with every two sampling interval until the desired sample size achieved. Structured questionnaire was used to collect data. The collected data was checked for completeness and analyzed manually by using SPSS. The result of the study was summarized by using frequency tables, graphs, and narrative description.

Result: According to this study, 112 (65.9%) of the respondents had good knowledge about MTCT of HIV/AIDS and majority of the respondents, 128 (75.3%) were knew that HIV can be transmitted from infected mother to her child. Among the total respondents, 108 (63.5%) strongly agree with the idea that important of every pregnant women to be tested for HIV. Majority of the respondents, 129 (75.9%), have positive attitude towards prevention Mother-To-Child transmission.

Conclusion: This study revealed that, majority of the respondents had good knowledge towards MTCT of HIV/AIDS. Majority of the respondents know that HIV/AIDS can be transmitted from infected mother to her child, but their knowledge on specific time when the virus is transmitted is not adequate. It also showed that most of the respondents had positive attitude towards PMCT.

Keywords: MTCT of HIV/AIDS; Pregnant women; Knowledge; Attitude

Abbreviations AIDS: Acquired Immune Deficiency Syndrome; ANC: Antenatal care; HIV: Human Immunodeficiency Viruses; KAP: Knowledge, Attitude and Practice; MCT: Mother to Child Transmission; PMCT: Prevention of Mother to Child Transmission.

Introduction

Acquired Immunodeficiency Syndrome (AIDS) is a chronic disease state which is caused by Human Immunodeficiency Virus (HIV). There are two types of HIV namely HIV-1 and HIV-2. HIV-1 is more

common, infects people worldwide and causes AIDS. HIV-2 is less aggressive and found mainly in West Africa causes a similar illness [1].

Mother-to-child transmission (MTCT) of human immune deficiency virus (HIV) infection is the transmission of the virus from an HIV-infected mother to her child during pregnancy, labor, delivery or breastfeeding [2]. Prevention of MTCT of an HIV infection is a politically and scientifically accepted approach to reduce the impact of HIV, especially on children [3]. The prevention of MTCT plays a major role in limiting the number of children being infected by HIV to less than 2%. Without any intervention, 20-50% of infant would be infected; 5-10% during pregnancy, 10-20% during labor and delivery and 5-20% through breast feeding [4]. The services provided by PMTCT program includes; HIV counselling and testing (HCT) for HIV in antenatal clinics and maternity wards, Antiretroviral drug

therapy, comprehensive antenatal care and safer delivery practices, appropriate infant feeding, Counselling and support [5].

The comprehensive approaches PMTCT are the four elements namely Primary prevention of HIV among women of childbearing age and their partners, prevention of unintended pregnancies among women with HIV, prevention of HIV transmission from mothers to their infants, provision of treatment, care and support to women infected with HIV and their partners, infants and families [6]. In light of the global and country commitments to the elimination of new paediatric infections and new evidence, Ethiopia has examined its PMTCT program goals and implementation experience to make optimal programmatic choices. Although Ethiopia's experience with option "A" implementation is limited. Option B+ developed and launched the operational plan for the implementation of Option B+ in 2013 to contribute to the national elimination plan [7].

In 2013, 1.5 million people died from HIV-related causes and there were approximately 35.0 million people living with HIV globally. Sub-Saharan Africa was the most affected region, with 24.7 million people living with HIV. Furthermore, 2.1 million people becoming newly infected with HIV worldwide.

From these, Sub-Saharan Africa accounts about 70% infections and an estimated 60% of people living with HIV were women, mostly in the reproductive age group. Each year approximately 1.4 million women living with HIV become pregnant globally and 98% among these clients in sub-Saharan Africa, the proportion of women living with HIV ranges from 5% to as high as 30%. In Ethiopia 1.2 people were living with HIV/AIDS and estimated 90,311 HIV positive pregnant women are anticipated in 2010 [8,9].

Study done in Tanzania on awareness and knowledge about HIV and PMTCT in pregnant women, in southwestern Tanzania showed that 67% had knowledge on MTCT during pregnancy and 78% knew the association between breastfeeding and mother-to-child transmission [10].

In South Africa shows 22.3% LTFU at 12 months and irregular antenatal care attendance and low levels of trust in health workers which may stem from experiences within PMTCT [11]. And various factors contribute to the high burden of paediatric HIV infection in Ethiopia and other sub-Saharan African countries like the high prevalence of HIV infection among women of reproductive age, large populations of women, high birth rates, and lack of access to effective interventions aimed at preventing mother to child transmission of HIV [12].

According to Ethiopian Demographic Health Survey (EDHS) 2011, only 34% of mothers had Antenatal Care follow up in Ethiopia, thus having a negative contribution on under-utilization of PMTCT services and also it has an impact on the knowledge and attitude of mothers about PMTCT [13]. The study done in Hawassa referral Hospital showed that only about half (48.3%) of the respondents knew that antiretroviral drugs given for seropositive pregnant mothers could reduce the risk of transmission [14]. There are few studies conducted in study area to see the knowledge level and attitude of mothers about PMTCT. So, this study aimed to assess the knowledge level and attitude pregnant mothers to wards prevention of mother to child transmission of HIV to fill the gap.

Methods

Study area

Mizan town is located 561 km to the southwest of Addis Ababa capital city of Ethiopia and 836 km from Hawassa which is the regional town of south nation nationalities and people region. It is the administrative center of Benchi-Maji zone. The total population of Mizan-Aman town is estimated to be 52,210 of whom 18,625 are male and 33585 are female. There are one teaching hospital and one health center in Mizan town. The number of pregnant women attended first ANC visit in the past three consecutive months (January, February, and March) at MTU teaching hospital and Mizan health center were 462 and 426 respectively. The mean value of the number of pregnant women having 1st ANC visit at both MTU teaching hospital and Mizan health center is 296 per month.

Study design and period

Health facility based cross-sectional study was conducted from April 25 to May 24, 2017.

Source and study population

All pregnant women having 1st ANC follow up at Mizan-Aman town health facilities considered as source of population and sampled pregnant women attending their 1st ANC visit considered as study population.

Inclusion and exclusion criteria

A pregnant woman who come for 1st antenatal care visit at Mizan-Aman health facilities during the study period included in the study, but pregnant women those who attending two and greater visit, had follow up in private institutions and those pregnant women who were unable to communicate were excluded from study.

Sample size determination and sampling technique

The sample size was calculated by using single population proportion formula by using expected prevalence 38.8% (prevalence of pregnant women having good knowledge about MTCT of HIV/AIDS at Jimma town [15], level of significance 1.96 and 0.05 margins of error. Then the calculated sample size was 364. After considering non response rate 10%, the sample size was 400. Since our source population was less than ten thousand. So, the correction formula was used as follows $NF = ni / 1 + ni / N = NF = 400 / 1 + 400 / 296 = 170$.

The total sample size (170) was proportionally allocated to Mizan each health facilities based on their source of population. Finally all eligible women were selected by using systematic sampling technique every two sampling interval until required sample achieved.

Data collection instrument and procedures

Data was collected through Interviewer administered structured questionnaire. The questionnaire contains the sections of biographical data, about HIV/AIDS, knowledge and attitude of pregnant women towards PMTCT. The questionnaire was adapted after reviewing different literature. Attitude was assessed by 9 questions and questions were put on a likert's scale.

Data quality assurance

A pre-test was conducted on 5% of sample size to determine whether the questionnaires are well understood by the respondent or not. An appropriate instructions was given to the data collectors to ensure the data quality. Training was given to data collectors for appropriate duration of time. Filled questionnaires were checked daily for completeness and errors was corrected. First the questions was prepared in English and translated to Amharic version, and then back to English.

Data processing and analysis

The collected data was checked for completeness and compiled on the master sheet and analyzed by SPSS software version 20.0. Finally, the result of the study was summarized by using frequency tables, graphs, and narrative description.

Ethical consideration

Ethical clearance was obtained from Mizan Tepi University and permission was obtained from MTU teaching hospital, Mizan health center administrator and from ANC team leader before starting data collection. The purpose of the study was explained to the pregnant women involving in the interview. The respondents were clearly informed about the objective of the study and the privacy and confidentiality of their information was respected.

Result

Socio-demographic status

Among respondents, 49 (28.8%) were in the age group of 25-29 years. More than half, 91 (53.5%) were protestant in their religion. Most of the respondents, 154 (90.6%) were married. Concerning the educational status of the respondents, 51 (30%) of them completed primary education and 30 (17.6%) were completed tertiary education. Regarding occupations of participants, 71 (41.8%) were housewife followed by 39 (22.9%) peasant (Table 1).

Variables	Category	Frequency	Percent
Age	≤ 19	26	15.3
	20-24	59	34.7
	25-29	49	28.8
	30-34	27	15.9
	≥ 35	9	5.3
Religion	Protestant	91	53.5
	Orthodox	47	27.6
	Muslim	32	18.9
Marital status	Married	154	90.6
	Single	2	1.2
	Divorced	1	0.6
	Separated	9	5.3
	Widowed	4	2.3

Educational status	No formal education	14	8.3
	Primary not completed	29	17.1
	Primary completed	51	30
	Secondary not completed	22	12.9
	Secondary completed	24	14.1
Occupation	Tertiary education	30	17.6
	Employed	26	15.3
	Business	16	9.4
	Housewife	71	41.8
	Peasant	39	22.9
	Employed	18	10.6

Table 1: Socio-demographic status of pregnant women attending 1st ANC visit at Mizan-Aman town public health facilities, 2017

Basic knowledge about HIV/AIDS

From the total of 170 respondents, 168 (98.8%) knew that HIV can be transmitted from infected person to uninfected one followed by 166 (97.6%) of them responded that HIV can be transmitted through sharing of sharp materials. Regarding risk of acquiring HIV/AIDS, 135 (79.4%) of the respondents responded that unprotected sexual intercourse with an infected person, and only 59 (34.7%) of the respondents responded that sexually transmitted infections are risks for acquiring HIV infection. Concerning the prevention mechanism of HIV/AIDS, 168 (98.8%), 166 (97.6%) and 165 (97.1%) respondents were spontaneously mentioned that abstinence, having one faithful sexual partner and using protective gears (condom) respectively (Table 2).

Mother-to-child transmission of HIV/AIDS

Among the total respondents, 128 (75.3%) knew that HIV can be transmitted from infected mother to her child. Regarding the time of HIV transmission from infected mother to her offspring the respondents were spontaneously mentioned 100 (58.8%) during pregnancy, 80 (47.1%) during labour and delivery, 115 (67.6%) during breastfeeding and 51 (30%) do not know the time of transmission.

Concerning ways of preventing HIV transmission from infected mother to her child, 87 (51.2%) of the respondents respond that it is possible to prevent MTCT by giving HIV medication during pregnancy, 62 (36.5%) by giving HIV medication to the baby and 49 (28.8%) do not knew. Only 29 (17.1%) said that MTCT of HIV/AIDS can be reduced by delivering by performing caesarean section. Concerning the time of initiation of anti-retroviral therapy during pregnancy, 73 (42.9%) respondents responded as during 1st trimester, 1 (0.6%) in the 2nd trimester, and 96 (56.5%) did not knew when to start (Table 3).

Infant feeding practices

Majority of the respondents, 118 (69.4%) choose exclusive breastfeeding as a first choice for 6 months, 28 (16.5%) mothers said breastfeed as the mother wishes and 24 (14.1%) of the respondents choose cow milk as the first choice. Majority of the respondents, 135 (79.4%) were said that the risk of acquiring HIV infection during breast feeding increased if there is cracked and bleeding nipples and 115 (67.6%) were said that due to mastitis. Concerning conditions on the infant those increase MTCT; Majority of the respondent said that 123 (72.4%) by oral ulcer followed by complementary feeding before the age of 6 months 53 (31.2%) (Table 4).

Attitude towards PMTCT of HIV/AIDS

Among 170 respondents, 108 (63.5%) strongly agree with the idea that it is important to every pregnant women to be tested for HIV and 53 (31.2%) agree with the idea. One hundred one (59.4%) of the respondents disagree with the idea that one should not get pregnant if she once infected with HIV, only 3 (1.8%) strongly agree and 21 (12.4%) agree with the idea. More than half, 88 (51.7%) of the respondents disagree with the idea of using condom during pregnancy and breastfeeding reduce the risk of MTCT of HIV. 77 (45.3%) of the respondents agree with breastfeeding despite HIV status due to stigma, while 73 (42.9%) disagree with the statement.

Majority of the respondents 117 (68.8%) agree with the statement that woman opt to breastfeed despite HIV status due to poverty and 80 (47%) of the respondents agree with breast feeding despite HIV status due to fear of disclosure while 68 (40%) disagree with the idea. More than three-quarter of the respondents, 137 (80.6%) were agreed with the option to breastfeed despite HIV status due to lack of education. 72 (42.3%) of the respondents strongly agree to support strategies to PMTCT, while 95 (55.9%) agree with the strategy.

Generally, according to this study, 112 (65.9%) of the respondents have good knowledge about MTCT of HIV/AIDS (Figure 1).

Variable	Responses	Frequency	Percent
Mode of transmission	Unprotected sexual intercourse	162	95.3
	Sharing of sharp material with infected person	166	97.6
	Unsafe blood transfusion	143	84.1
	Mother-To-Child	128	75.3
Risks for acquiring HIV	Unprotected sexual intercourse with infected person	135	79.4
	Multiple sexual partner	113	66.5
	Having sexually transmitted infection	59	34.7

Table 2: Basic knowledge of respondents towards mode of transmission and risks for acquiring HIV/AIDS among pregnant women attending ANC unit at Mizan-Aman town public health facilities, 2017

Variables	Responses	Frequency	Percent
Time transmission of	Pregnancy	100	58.8
	Labour and delivery	80	47.1
	Breastfeeding	115	67.6
	Did not knew	51	30
Way of prevention	Antiretroviral therapy during pregnancy	87	51.2
	Delivering by caesarean section	29	17.1
	Giving antiretroviral drugs to the newborn	62	36.5
	Did not knew	49	28.8

Table 3: The response of pregnant women on MTCT of HIV/AIDS at Mizan-Aman town, public health facilities, 2017 GC.

Variables	Responses	Frequency	Percent
Feeding choice	Exclusive breastfeeding	118	69.4
	As the mother wishes	28	16.5
	Cow milk/infant formula	24	14.1
Maternal factors	Low CD4 count	14	8.2
	Cracked and bleeding nipples	135	79.4
	Mastitis	115	67.6
	I do not know	30	17.6
Infant factors	Mouth ulcer	123	72.4
	Complementary feeding before 6 months age	53	31.2
	I do not know	45	26.5

Table 4: Infant feeding choice of respondents and their responses on risks increasing MTCT during breastfeeding at Mizan-Aman town public health facilities, 2017.

Discussion

According to this study, 75.3% of the respondents knew that HIV can be transmitted from infected mother to her child. Regarding the time of transmission, 58.8% responded during pregnancy. This finding is inconsistent with the studies done in Southwestern Tanzania and Nigeria about the knowledge about MTCT [16,17].The possible explanation for difference might be due to difference in study area study period and sample size and other study done in Ambo hospital is not similar with study [18]. This may be due to difference in time at which these studies was conducted.

Majority respondents, 67.6% knew the association between MTCT and breastfeeding which decreased by 10% as compared with the study done at south-western Tanzania which showed that 78% of the respondents knew the association between MTCT and breastfeeding [17]. This may be due to difference in study area and sample size.

However, the finding of this study is increased by 8.6% as compared with study done at Lagos, Nigeria, which showed that 59% of the respondents knew the association between MTCT and breastfeeding [19]. The result of this study also increased to be more than twice as compared with study done at Ambo hospital which was only 31.4% of the respondents knew the association between breastfeeding and MTCT [18]. The discrepancy might be due to time variation at which the study was conducted, since awareness increases as time elapses.

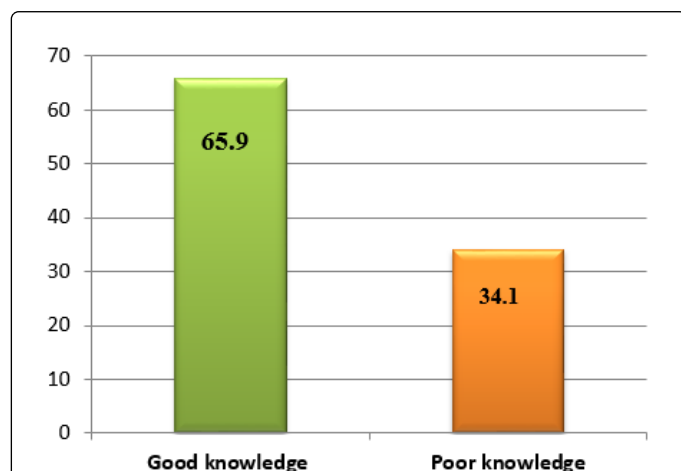


Figure 1: Level of knowledge of ANC clients about MTCT of HIV at Mizan-Aman public health facilities, 2017.

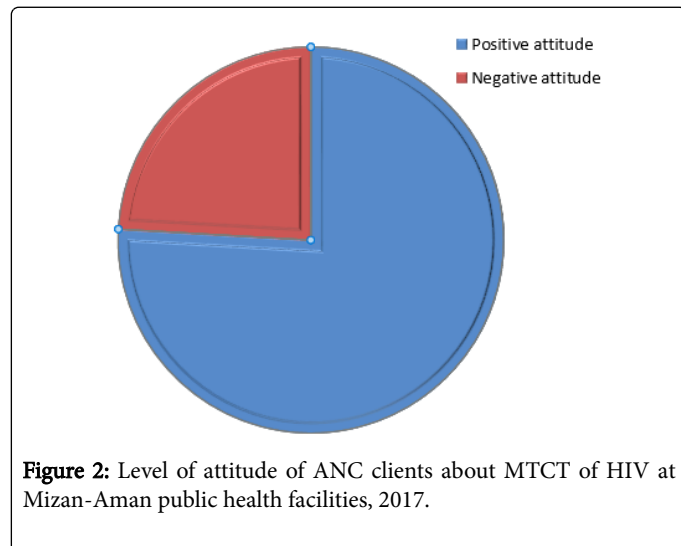


Figure 2: Level of attitude of ANC clients about MTCT of HIV at Mizan-Aman public health facilities, 2017.

Out of the respondents, 51.2% of the respondents knew that Antiretrovirals therapy given during pregnancy could reduce the risk of transmission of HIV/AIDS from the mother to the foetus. This finding is similar with study done at Ambo hospital [18]. Regarding the choice of infant feeding for HIV positive mothers, majorities (69.4%) of the respondents chose exclusive breast feeding as first choice, and 14.1% chose infant formula/cow milk as first choice of infant feeding [18]. The difference might be due to difference in socio-economic status variables.

According to this study, 112 (65.9%) of the respondents have good knowledge about MTCT of HIV/AIDS. This shows that those respondents who have good knowledge about MTCT of HIV/AIDS is

increased by more than half as compared with the study done in Jimma town revealed that a small proportion of mothers (38.8%) had sufficient knowledge about MTCT [15]. The discrepancy might be due to variation in study time.

According to this study, majority of the respondents (75.9%) had positive attitude towards Mother-to-child transmission of HIV/AIDS, which is slightly greater than from the study done in Jimma town that showed 62.4% of pregnant mothers had good attitude towards MTCT [15]. However, this finding is less than the study done in Ambo hospital (93.6). This might be due to difference in study setting and sample size. The limitation of this study is as its cross sectional descriptive study, it did not show the association between dependent and independent variables (Figure 2).

Conclusion

This study revealed that, majority of the respondents had good knowledge towards MTCT of HIV/AIDS. Majority of the respondents know that HIV/AIDS can be transmitted from infected mother to her child, but their knowledge on specific time when the virus is transmitted is not adequate. It also showed that most of the respondents had positive attitude towards PMTCT.

Declarations

Ethical approval and consent to participants

Written ethical approval was obtained from Mizan Tepi University of Institutional Review Board. Permission was obtained from respective institutions and written consent was obtained from students after discussing the objective of the study.

Availability of data and material

The data of current study is available from the corresponding author on reasonable request.

Competing Interests

The authors declare that, they have no financial and non-financial competing interests.

Authors' Contribution

DH, TA, LC, MA, YM, GA, YY and AG developed a concept of research work, proposal development, data collection, analysis, report writing and writing of the manuscript. All authors read and approved the final manuscript.

Acknowledgments

We would like to express our deepest gratitude to Mizan Tepi University for supporting us to do this research. Our appreciation also goes to our data collectors, supervisors, health facility leaders and study participants for their valuable contribution in the realization of this study.

References

1. UNAIDS WHO (2009) AIDS Epidemic Update. Geneva, UNAIDS.

2. The Working Group on Mother-To Child Transmission of HIV (2005) Rates of mother-to-child transmission of HIV-1 in Africa, America, and Europe: results from 13 perinatal studies. *J Acquir Immune Defic Syndr Hum Retrovirol* 8: 506-510.
3. Connor EM, Sperling RS, Gelber R, Kiselev P, Scott G (1994) Reduction of maternal-infant transmission of human immunodeficiency virus type 1 with Zidovudine treatment. *New Engl J Med* 331: 1173-1180.
4. WHO/UNAIDS/UNICEF (2007) Towards universal Access scaling up priority HIV/AIDS Intervention in the health sector. Progress report, Ethiopia.
5. Adewole I, Oluwole O, Sagay A (2006) Prevention of Mother-to-Child transmission of HIV: The Nigerian PMTCT Programme. In: Adeyi O, Kanki P, Odutolu O, Idoko J, editors. *AIDS in Nigeria: A nation on the threshold*. Cambridge Harvard Center for Population Development Studies 349-384.
6. De Cock KM, Fowler MG, Mercier E, de Vincenzi I, Saba J et al. (2000) Prevention of mother-to-child HIV transmission in resource-poor countries: Translating research into policy and practice. *JAMA* 283:1175-1182.
7. WHO Regional Office for Africa (2014) Implementation of Option B+ for Prevention of Mother To-Child Transmission of HIV.
8. WHO (2013) ARV guidelines 15 facts on HIV treatment scale-up.
9. Federal Ministry of Health (2011) Guidelines for Prevention of Mother-to-Child Transmission of HIV in Ethiopia.
10. Gundel H, Katja S, Ilaria M, Baryomunsi C, Mbezi P (2012) Analyzing awareness and knowledge of Mother-to-child Transmission and its prevention in Uganda and Tanzania. *SAHARA J* 2: 258-266.
11. UNICEF (2012) Overview of Options A, B, and B+ for PMTCT Coceka Nandipha Mnyani 28.
12. Central statically agency of Ethiopia and ICF international, EDHS (2011) Addis Ababa and Calverton. Meryland, USA and ICF international 2012.
13. Abajobir AA, Zeleke AB (2013) Knowledge, Attitude, Practice, Factors Associated with Prevention of Mother-To-Child Transmission of HIV/AIDS Among pregnant mothers Attending ANC clinic in Hawassa Referral Hospital, South Ethiopia. *J AIDS Clin Res* 4: 215.
14. Hembah-Hilekaan SK, Swende TZ, Bito TT (2012) Knowledge, Attitude, and Barriers towards prevention of mother to child transmission of HIV among women attending antenatal clinic in Uyam District of Zaki-Biam in Benue State. Nigeria. *AJRH* 16: 27.
15. Hailu C (2005) Assessment of Knowledge Attitude &Practice among mothers; about VCT and feeding of infants to HIV positive women Jimma town: Addis Ababa University Master's thesis, Addis Ababa, Ethiopia.
16. Moses O, Munir'deen A, Peter A (2007) Awareness and Knowledge of MTCT of HIV among pregnant women attending a federal medical center in Nigeria. *Journal of National Medical Association* 99: 758-763.
17. Gundel H, Katja S, Ilaria M, Baryomunsi C, Mbezi P (2012) Analyzing awareness and knowledge of Mother-to-child Transmission and its prevention in Uganda and Tanzania. *SAHARA J* 2: 258-266.
18. Tesfaye G, Tufa B, Likisa J, Alebachew M, Temesgen G, et al. (2015) Knowledge, Attitude and Practice towards PMTCT of HIV among Women Attending Ambo Hospital ANC Clinic, West Ethiopia. *J AIDS Clin Res* 6: 407.
19. Ekaneem EE, Gbadegesin A (2007) Voluntary counseling and testing for Human Immunodeficiency Virus; a study on acceptability by Nigerian women attending Clinics. *Afr J Reprod Health* 8: 91-100.