

Knowledge, Attitude and Practice towards Prevention of Mother to Child Transmission (PMTCT) of HIV/AIDS among Pregnant Mothers at Nigist Eleni Mohammed Memorial General Hospital (NEMMGH), Hosanna, Southern Ethiopia

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Received Date: April 07, 2018; Accepted Date: May 02, 2018; Published Date: May 5, 2018

Citation: Workie Tigabu (2018) Knowledge, Attitude and Practice towards Prevention of Mother to Child Transmission (PMTCT) of HIV/AIDS among Pregnant Mothers at Nigist Eleni Mohammed Memorial General Hospital (NEMMGH), Hosanna, Southern Ethiopia. J HIV AIDS Infect Dis 5: 1-11.

Abstract

Introduction: Globally about 2.3 million HIV positive women get pregnant annually and 700,000 children are born infected from their parents. In Ethiopia there are over 100,000 pregnancies in HIV positive women and over 12,000 children born HIV positive.

Objective: To assess knowledge, attitude and practice of women on ANC follow up towards PMTCT of HIV/AIDS and associated factors

Methods: A cross-sectional study was conducted among pregnant mother attending ANC follow up from September 1 to September 30, 2015. Sampling technique was systematic random sampling and 237 mothers attending antenatal care were participated. Presence of association between dependent and independent variables was checked using SPSS at 95% CI and 5% margin of error.

Results: This study showed that from 237 participants, 92.8% knew about mother-to-child transmission (MTCT), 83.5% of them knew about PMTCT of HIV/AIDS, 93.3% had positive attitude towards PMTCT of HIV/AIDS and all of the respondents have been practiced PMTCT. But only 79.9% of them had pre and post test counseling. Being government employees, having last pregnancy ANC follow up, previous institutional delivery and partner test during ANC follow up were associated factors for knowledge, attitude and practice towards PMTCT of HIV/AIDS among mothers attending ANC service.

Conclusion: Level of knowledge, attitude and practice towards PMTCT of HIV/AIDS seems high among the study participants. However, there is still misunderstanding regarding to PMTCT and involvement of male or testing of partner during ANC follow up which is not satisfactory. Therefore, taking this in to account strengthening the level of PMTCT service in ANC setting and promote testing of men during ANC in PMTCT service should be encouraged.

Keywords: Prevention of Mother to Child Transmission, HIV/AIDS, Knowledge, Attitude, Practice, Hosanna, South Ethiopia

Introduction

According to 2013 data, globally 35 million people were living with the disease and 2.3 million new HIV infection occurred worldwide. The highest number of people living with HIV was found in sub-Saharan Africa which is 24.7 million peoples. Women showed the greatest increase with HIV/AIDS incidence in recent years, especially in sub Saharan Africa Nearly 60% of infected persons were women. Among treatment eligible children living with HIV/AIDS in sub Saharan Africa, only half of them were likely to receive ART prophylaxis [1-3]. Globally about 2.3 million HIV positive women get pregnancy each year and 700,000 children are born infected from their parents. In Ethiopia there are over 100,000 pregnancies in HIV positive women and over 12,000 children were born HIV positive. However, Anti Retroviral Treatment (ART) coverage for pregnant women living with HIV was 62% in 2012. However to achieve the global goal of at least 90% of pregnant women living with HIV should get antiretroviral interventions [4,5] requires scale up of prevention strategies. Besides the dominant heterosexual transmission of HIV, mother to child vertical transmission accounts for more than 90% of pediatric HIV/AIDS. Specially in developing countries including Ethiopia, MTCT has become a critical child health problem [6]. In 2012 an estimated 260,000 children were newly infected with HIV and an estimated 3.3 million children were living with HIV [7]. An increasing incidence of HIV in pregnant mothers lead to increased incidence of HIV in children [8]. The risk of an infant acquiring the virus from an infected mother ranges from 25-35% worldwide. Mother to child transmission of HIV in cohorts of women who have not received any preventive treatment ranges from 15%-25% in industrialized countries to 25%-45% in developing countries [9, 10].

The overall risk can be reduced to less than 2% by implementing PMTCT program [11]. Inadequate knowledge on PMTCT services by clients, illiteracy, lack of adequate information on the benefit of PMTCT services and unfavorable attitude are affecting utilization of PMTCT services [12].

Methods

Design: An institution based cross-sectional study was conducted from August 1 to September 30, 2015 to investigate knowledge, attitude and practice towards PMTCT of pregnant mothers attending ante natal clinic at Nigist Eleni Mohammed memorial General Hospital.

Study area: Nigist Eleni Mohammed Memorial General Hospital is found in Hossana town, Hadiya Zone South Ethiopia and was established and started its full function in 1982. Hossana town is the capital city of Hadiya zone and is located at a distance of 232 km and 194km from Addis Abab and Hawassa respectively. It is the only Hospital in Hadiya Zone which has total catchment population of 1,506,733. The Hospital also serves as a teaching hospital for health officers, midwives and nursing students. The hospital has seven departments; Gynecology & Obstetrics is one among the departments.

The Hospital has two gynecologists, two general emergency Obstetrician, one General Practitioner, 15 midwives, 7 nurses and 2 Integrated Emergency surgical officers working in the department.

Source population: The source populations for this study were all pregnant mothers on ANC at Nigist Eleni Mohammed Memorial General Hospital.

Study population: The study populations for this study was randomly selected pregnant mothers attending ANC clinic at Nigist Eleni Mohammed memorial General Hospital and willing to participate in the study.

Sample size and sampling technique: The sample size for this study was calculated using double population proportion assumptions and the largest (237) was taken. All records of mothers on ANC follow up during one year were traced from maternal and child Health clinic and then the total numbers of pregnant who attended ANC within two month were estimated. Sampling interval of mother who participated in the interview was determined by divided the total number of pregnant mother who had ANC within two months to the final sample size which was approximately every two ANC attendants.

Data collection: Data were collected using structured interviewer administered questionnaires. The questionnaires were prepared in English and translated to Amharic language. The data were collected by four midwifery professionals who work at ANC clinic in Nigist Eleni Mohammed Memorial General Hospital. The principal investigator was also responsible for the co-ordination and on spot supervision of overall data collection process.

Data processing and analysis: SPSS version 20 software was used for data entry, data cleaning, coding and analysis. The presence and strength of the association between the dependent and independent variables were determined using adjusted odds ratios (AORs) with 95% Confidence Intervals (CIs) estimated using logistic regression analysis. P-values less than or equal to 0.05 were considered to be statistically significant.

Data Quality assurance: The principal investigator gave training for data collectors to assure data quality. Questionnaire was pre-tested prior to actual data collection. Based on the pretest, the question was assessed for clarity, understandability, flow and construction, and modification was done accordingly. The principal investigator collected the completed questionnaires every day and checked each part of the instrument for inconsistencies and missed values. The principal investigator did supervision of overall data collection process.

Ethical consideration: Ethical issue of this study was approved by Hawassa University Institutional Review Board. After obtaining permission from Nigist Eleni Mohammed Memorial General Hospital director, informed (verbal) consent was obtained from the study subjects and participants were provided with information about the objectives and expected outcomes of the study at every stage of the data collection.

Variables of the study:

Independent Variables: Socio demographic factors, obstetric factors.

Dependent Variables: Knowledge, attitude and practice towards PMTCT

Operational Definitions

Knowledge: In this study knowledge was rated as good for those who answered >70% of knowledge questions correctly; fair, for those who answered 50-70% of knowledge questions; and poor, for those answered <50% of the knowledge questions.

Attitude: For this study defined as evaluations of the feelings of pregnant women about PMTCT, it was rated as favorable, for those who answer $\geq 60\%$ of attitude questions positively; unfavorable, for those who answered <60% of attitude questions positively.

Practice: practice is defined as action of making the use of available PMTCT service like testing of HIV, exclusive breast feeding, use of ART prophylaxis, discussion about HIV with partner or with husband, testing of partner or husband during ANC follow up, getting of pre and post test counseling, participation of community conversation and exchange of idea with women who is taking ART prophylaxis.

Result

Socio-demographic Characteristics: As Table 1 showed that a total of 224 questionnaires were complete, which yields a response rate of 96.5%. More than half 141 (62.9%) of the participants were within the age group of 25-34 years followed by 15-24 year 71 (31.7%). Concerning educational status, 32 (14.3%) had no formal education, 52 (23.2%) had attended primary education, the remaining 72 (32.1%) and 68 (30.4%) of the women had attended secondary and above secondary education respectively.

Variables	Frequency (n=224)	Percent
Age		
15-24	71	31.7
25-34	141	62.9
>35	12	5.4
Marital status		
Single	8	3.6
Married	206	92
Divorced	7	3.1
Widowed	3	1.3
Religion		
Protestant	114	50.9
Orthodox	69	30.8
Muslim	37	16.5
Other	4	1.8
Educational status		
No formal education	32	14.3
Primary	52	23.2
Secondary	72	32.1
Above secondary	68	30.4
Occupation		
Housewife	102	45.5
Government employed	61	27.2
Private employed	16	7.1
Merchant	33	14.7
Other	12	5.4
Husband's occupation		
Farmer	42	18.8
Government employed	90	40.2
Private employed	33	14.7
Merchant	50	22.3
Other	9	4
Address		
Rural	65	29
Urban	169	71

Table 1: Socio-demographic Data of Mothers Attending ANC service at Nigist Eleni Mohammed Memorial General Hospital, Hossana, September, 2015

Reproductive Health History

Table 2 indicated that 118 (52.7%) were Para one followed by Para two and above which was 87(38.8%) and most 170 (75%) of the women had ANC follow up during the last pregnancy and the other remaining 54 (24.1%) of them had not ANC follow up during the last pregnancy.

Variables	Frequency (n=224)	Percent
Parity	118	52.7
Para I	87	38.8
Multipara	19	8.5
Grandmultipara		
ANC during last pregnancy		
Yes	170	75.9
No	54	24.1
Number of ANC visit for the current pregnancy		
One	35	15.6
Two	69	30.8
Three	74	33
Four and above	46	20.5
Place of last delivery		
Home	54	24.1
Health center	72	32.1
Hospital	88	39.3
Private clinic	10	4.5
Number of alive children		
One	118	53.1
Two	65	29
Three	29	12.9
Four and above	11	4.9

Table 2: Reproductive History of Participants Attending ANC service at Nigist Eleni Mohammed Memorial General Hospital, south Ethiopia, September, 2015

Knowledge of Women on Mother-to-child Transmission (MTCT) of HIV and its prevention

This study tried to assess the knowledge of pregnant mothers attending ANC follow up clinic at Nigist Eleni Mohammed Memorial General Hospital on MTCT of HIV. Accordingly all of the participants have heard about HIV/AIDS. Among these 208 (92.8%) of the pregnant mothers attending ANC follow up knew mother-to-child transmission of HIV and 16 (7.1%) did not know about MTCT. Among the respondents 181 (80.8%) answered that HIV screening could be done in health institutions and the rest 43 (19.2%) do not know. Regarding to the time of transmission of the virus from the infected mother-to-child, 24 (10.7%) responded during ante partum, 31 (13.8%) intra partum, 12 (5.4%) postpartum, 141 (62.9%) by all and 16(7.1%) do not know. Regarding to prevention of mother-to-child transmission of HIV/AIDS, 187(83.5%) of them knew MTCT of HIV is preventable. Of these 49.1% of the respondents knew that ART drugs could reduce the risk of transmission. Majority of them 144 (64.3%) knew that infants born from HIV-positive mother need follow up at ART clinic. Of the respondents, 48 (21.4%) said a child need follow up for six months, 20 (8.9%) for one year and 156 (70%) until proven HIV negative (Table 3). In this study, 13 (5.8%) of the respondents answered the time of ART prophylaxis initiation to be at 14 weeks of pregnancy, 23 (10.3%) after delivery, 65 (29%) during early pregnancy and 123 (54.9%) do not know. The comprehensive knowledge of pregnant mother who attended ANC in (NEMMGH) was found 68.8% of them had good knowledge, 24.1% had fair and the remaining (7.1%) of them had poor knowledge (Figure 1).

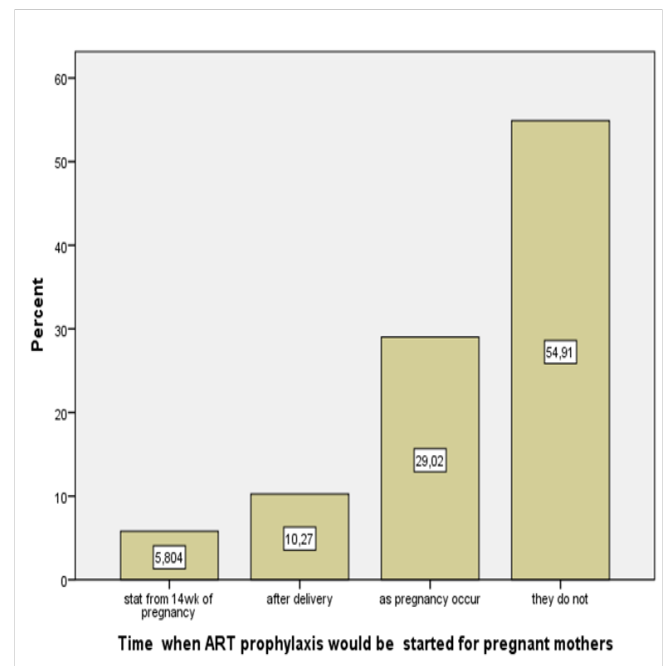


Figure 1: Response of pregnant women regarding to time when ART prophylaxis would be started, Nigist Eleni Mohammed Memorial General hospital, south Ethiopia:-September 2015.

Knowledge of women on MTCT HIV	Frequency	Percent	
Ever heard about HIV/AIDS	224	100%	
HIV/AIDS can be transmitted during sexual intercourse with HIV positive person	223	99.6%	
HIV/AIDS can be transmitted Using sharp materials with HIV positive person	211	94.2%	
HIV/AIDS can be transmitted During blood transfusion	218	97.7%	
HIV/AIDS can be transmitted by insect bite	177	77.2%	
know screening for HIV in pregnant women are giving at the health Institution	181	80.8%	
a pregnant woman with HIV/AIDS can transmit the virus to her child	208	92.8%	
When can women with HIV/AIDS transmit the virus to their children?			
	Anti partum	12	5.3%
	During delivery	29	12.9%
	Breast feeding	6	2.7%
	ALL	141	62.9%
They do not know	16	7.9%	
a baby from HIV positive mother need follow up on ART clinic	211	94.2%	
We can prevent transmission of HIV from infected mother to her unborn child.	187	83.5%	
know ART drugs can be given for HIV positive pregnant mothers as a prophylaxis	188	84%	
When can ART prophylaxis would be started for HIV positive pregnant mothers?	During early pregnancy	65	29%
	Starting from 14wk of pregnancy	15	5.8%
	During delivery	23	10.5%
	They do not know	123	54.9%
advice giving breast feeding and formula diet together for neonate from HIV/AIDS positive mother	145	64.7%	
Over all (comprehensive) knowledge			
Good	154	68.8%	
Fair	54	24.1%	
Poor	16	24.1%	

Table 3: knowledge of women on MTCT of HIV /AIDS and it's prevention among pregnant women attending ANC clinic in Nigist Eleni Mohammed Memorial General Hospital, south Ethiopia; September 2015

Association between study variables and Knowledge on prevention of MTCT of HIV

Multivariate analyses showed that age, marital status, religion and educational status had no significant association with knowledge of MTCT and PMTCT of HIV; but women who is government employees and whose husbands were government employees (AOR=2.84, 95% CI (1.042, 7.741) and (AOR=4.32, 95% CI (1.25, 12.11)) had a significant association to knew about MTCT/ PMTCT of HIV than those house wife respectively. Urban women had more knowledge than their rural counter parts (AOR=2.34, 95% CI (.995, 5.52)).

Among the reproductive characteristics of women such as number of alive children and parity did not have significant association; however, antenatal care follow up during last pregnancy shown to have significant association with knowledge on MTCT and PMTCT of HIV/AIDS on multivariate analysis. The odds of knowledge on Prevention of MTCT was about 7 times higher among women who had last ANC follow up (AOR=7.61, 95% CI ((3.46, 16.72)) than women who had not last pregnancy ANC follow up (Table 4).

Variables	Knowledge on PMTCT		COR[95%CI]	AOR[95%CI]
	Yes	No		
Husband occupation				
Farmer	27	25	1.00	1.00
Government employee	70	20	2.87(1.14, 7.20)	4.23(1.41,12.12)
Other	57	35	1.38(0.45, 2.85)	1.52(0.69, 3.31)
Respondent's Occupation				
Housewife	68	40	1.00	1.00
Government employee	49	12	2.63(1.24, 5.55)	2.84(1.04,7.74)
Private employee	19	9	4.51(0.974, 20.94)	5.13(0.08,30.28)
Merchant	9	19	1.72(0.72, 4.078)	2.03(0.72, 5.66)
Other	11	9	0.461(0.137, 1.55)	0.32(0.10, 1.75)
Address				
Rural	34	31	1.00	1.00
Urban	120	39	2.805(1.50, 5.14)	2.30(0.995, 5.52)
ANC during last pregnancy				
Yes	133	37	0.177(0.092, 0.342)	7.61(3.46, 16.72)
No	27	33	1.00	1.00
Number of ANC visit for the current pregnancy				
One	22	13	1.00	1.00
Two and Three	98	45	2.59(0.84, 7.94)	0.46(0.17, 1.25)
Four and above	34	12	5.28(1.5, 18.64)	0.68(0.21, 2.19)
Number of alive children				
One	82	37	1.00	1.00
Two and Three	67	27	1.12(0.62-2.024)	.96(0.47-1.982)
Four and above	5	6	0.35(0.108, 1.311)	0.27(0.06, 1.17)
Educationa status of respondent				
No formal education	20	12	1.00	1.00
Primery and secondary	79	45	1.05(0.471-2.353)	2.21(0.23,21.52)
Above secondary	55	13	2.53(0.995, 6.477)	1.34(0.62,2.92)

Table 4: Bivariate and Multivariate Analysis of Socio-demographic Characteristics, Reproductive history and Knowledge on PMTCT of Pregnant Mothers Attending ANC follow up clinic in Nigist Eleni Mohammed Memorial General Hospital, south Ethiopia;December; 2015.

Attitude towards PMTCT of HIV

Among the study subjects, 209 (93.3%) of them had favorable attitude toward prevention of MTCT of HIV whereas, the rest 15 (6.7%) of them had unfavorable attitude. Among the respondents 217(97%) of them want to know their HIV status while they are pregnant but the rest 7(3%) of them did not want due to fear of stigma and discrimination. Among the respondents 143(63.8%) of them were confidential on test result, the other 81(36.2%) of them had lack of confidentiality. Out of 224 respondents (84.4%) of them were comfortable in taking care and to advice their sister, relative or friend to be tested while they are pregnant.

On the other hand, Most of the respondents 215(94%) of them agree to tell for their husband if they become HIV positive while they are pregnant and the rest 6% did not tell, because of 3.4% fear of divorce and 2.2% fear of decrease support for the pregnancy. Two hundred three (87.5%) of the respondent were accept that all pregnant mothers should be tested for HIV in the health institution. Majority of the study subject 200(89.9%) were agree with the increasing utilization of PMTCT will decrease transmission of HIV to the offspring and the rest 24(10.1%) of them did not agree. Ninety one percent (91.5%) of the respondent initiate her husband or children to be tested for HIV/AIDS. Majority of the respondents (98.3%) were accepting to give care for HIV positive mother during delivery (Table 5).

Attitude of women on MTCT of HIV	Frequency	Percent
want to know their HIV status while they are pregnant	217	96.6%
afraid of stigma & discrimination during HIV testing	139	62.1%
trust the confidentiality of the test result	143	63.9%
If their sister, relative or friend was pregnant, they can advice them that it is good to be tested for HIV	189	84.4%
If their relative baby becomes HIV/AIDS positive, they can give care for the baby	203	90.3%
They can support or initiate HIV positive pregnant mothers to have institutional delivery	187	83%
If they become HIV positive while they are pregnant they could tell for their husband	203	90.3%
They agree that all pregnant mothers should be tested for HIV	183	81.7%
agree with increasing utilization of PMTCT will decrease transmission of HIV/AIDS to the offspring	200	89.3%
Over all (comprehensive) attitude of women on MTCT		
Favorable	209	93.3%
Unfavorable	15	6.7%

Table 5: attitude of women on MTCT of HIV/AIDS and it's prevention among pregnant women attending ANC clinic in Nigist Eleni Mohammed Memorial General Hospital, south Ethiopia, September 2015

Association between study variables and Attitude towards PMTCT

Multivariate analysis show that age, religion, marital status, occupation of the respondent, distance of home from institution and husband occupation had no significant association with the Attitude of pregnant mother. However, urban women had favorable attitude towards PMTCT than rural with AOR=1.14, 95%CI (1.111, 4.388).

Concerning to reproductive characteristics of women such as presence of last ANC and place of last delivery had significant association with the Attitude of pregnant mother with AOR=1.99, 95%CI (1.9, 4.39) and AOR=2.24, 95%CI (1.04, 4.85) respectively. However, parity, number of alive children, number of current pregnancy ANC follow up and gravidity did not show a significant association with Attitude towards Prevention of mother to child transmission of HIV/ AIDS (Table 6).

Practices of Women Attending ANC follow up clinic on PMTCT

Prevention of mother-to-child transmission (PMTCT) and factors affecting its practice among women were analyzed using different explanatory variables. All of the respondents 224(100%) have been tested for HIV. Among these 83 (37.1%) tested three month ago, 30 (13.5%) tested six month ago, 24 (10.7%) tested one year ago and 87(38.7%) tested on the current pregnancy. Only 179 (79.9%) of them had pre- and post-testing counseling but the remaining 45 (20.1%) did not have pre and post test counseling. From the respondents 204 (91.1%) shared the result of HIV test with their husband/partner whereas, the remaining 20 (8.9%) did not share the result to their husband/partner at the time of testing.

Among the respondents, 171 (76.3%) of the partner/husband tested for HIV/AIDS during their ANC follow up but 53(23.7%) of their husband/partner was not tested during follow up. Majority of the respondents 127 (56.7%) had no any participation in community conversation on HIV/AIDS, the remaining 97(43.3%) of the respondents had participation in community conversation on HIV /AIDS. Among the study subjects 156 (69.6%) who discussed with their husbands about HIV/AIDS during pregnancies and 86 (56.9%) of the respondents did not have discussed with their husband about the issue of HIV testing in current pregnancy.

Concerning to the perception of their husband on HIV screening 172 (76.8%) wanted to have couple testing, 52 (23.2%) wanted only the woman to be tested and eighty four (35%) of the respondents had sharing of idea to mother on ART prophylaxis where as the remaining 140 (62.5%) of them had not (Table 7).

Variables	Attitude on PMTCT		COR[95%CI]	AOR[95%CI]
	foverable	Unfoverable		
Address				
Rural	46	19	1.00	1.00
Urban	134	25	2.214 (1.11,4.388)	1.14(0.67,3.2)
Place of last delivery				
Home	36	18	1.00	1.00
Institutional delivery	144	26	2.76 (1.371, 5.59)	2.24 (1.04, 4.85)
Number of current ANC				
One	29	6	1.00	1.00
Two and Three	144	29	0.813(0.384,2.1)	0.51 (0.17, 1.53)
Four and above	37	9	0.85(0.271,2.66)	0.48(0.13, 1.74)
No of alive children				
one	99	20	1.00	1.00
two and three	76	18	0.18(0.047,0.77)	4.86(1.23, 19.7)
four and above	5	6	0.19(0.05,0.83)	3.98(0.99, 15.9)
Presence of past ANC				
Yes	142	28	2.12(1.049, 4.34)	1.99(0.90,4.39)
No	38	16	1.00	1.00

Table 6: Multivariate Analysis of Socio-demographic Characteristics and attitude of PMTCT of Pregnant Mothers Attending ANC Clinic in Nigist Eleni Mohammed Memorial General Hospital, south Ethiopia; September 2015.

Practice of Women on PMTCT	frequency	Percent
Ever been tested for HIV/AIDS	224	100%
Share the results with your husband/partner	204	91.1%
They got a pre and post test counseling about HIV in this hospital	179	79.9%
Their partner/husband been tested for HIV during their ANC follow up	171	76.3%
ever discussed with their husband about the issues of HIV testing in the Current pregnancy	156	69.6%
Their husband Want to have couple testing of HIV	172	76.8%
They have any participation in community conversation on HIV/AIDS	97	43.3%

Table 7: practice of women on MTCT of HIV /AIDS and it's prevention among pregnant women attending ANC clinic in Nigist

Association between Socio-demographic Characteristics, Reproductive history, associated factors and Practice on Prevention of MTCT of HIV

As multivariate analyses shown that age, religion, address, marital status, husband occupation and occupation of the respondents do not show any significant association with discussion about the issue of HIV with husbands/partners during pregnancy period. Regarding to the reproductive characteristics of women related to their PMTCT practice, a logistic regression analysis was done.

Among the reproductive characteristics, women whose husband/partner have testing of HIV during ANC follow up and place of last delivery being institution have significant association with (AOR=7.54 95% CI(3.30,1719)) and(AOR=2.77 95% CI(1.399, 5.509)) respectively. However, parity, gravidity and number of alive children were found have no significant association with practice of prevention of mother to child transmission of HIV/AIDS (Table 8).

Variables	Practice		COR[95%CI]	AOR[95%CI]
	Yes	No		
Testing of partner at ANC				
No	18	35	1.00	1.00
YES	138	33	8.13 (4.10,16.19)	7.5 (3.30,17.19)
Place of last delivery				
Home	27	27	1.00	1.00
Institutional delivery	129	41	3.14 (1.66, 5.96)	3.6 (1.7, 7.48)
Parity				
One	89	29	1.00	1.00
Two and Three	51	36	0.462 (0.254,0.839)	0.76 (0.28, 2.03)
Four and above	16	3	1.73 (0.472, 6.392)	3.2 (0.63, 16.08)
gravidity				
one	29	90	1.00	1.00
two and above	44	63	0.519(0.288, 0.937)	0.84(0.36, 1.99)

Table 8: Multivariate Analysis of Socio-demographic Characteristics and Practice of PMTCT of Pregnant Mothers Attending ANC Clinic in Nigist Eleni Mohammed Memorial General Hospital, south Ethiopia, September 2015.

Discussion

In this study all the respondents have heard about HIV/AIDS. Among these 92.8 % of the pregnant mothers knew transmission of HIV from infected mother to her baby and 83.5% of the pregnant mothers knew that MTCT of HIV is preventable. Relatively, we can say it is satisfactory and it was achieved by expanded institutional delivery service and the increased ANC seeking behavior of the pregnant women. The risk of transmission of HIV/AIDS during pregnancy, delivery and breast feeding is well known. However, the use of and time of ART drug in PMTCT was not well known. This finding was nearly similar with the study in north west Ethiopia (Gondar) and Hawassa referral hospital which was 88.5% & 83% and 90.1% & 82.3% respectively [13,14]. This finding was greater than the study done in Jimma (80%) town and in rural and urban Uganda which was 38.8% & 41.8%. [15,16]. The disparity could be explained by the fact that urban population has more accesses to information and ANC seeking behavior than rural one and the other reason is time to time increase of communication through social media about health related information. In this study 93.3% of pregnant women had good attitude toward prevention of mother to child transmission of HIV/IDS. This finding was less than study done in Hawassa referral hospital which was 97.4% [2]. This may be due to lack of access in health related information and health education in zonal level compared to regional level. This finding was greater than the study finding in Jimma town and in rural and urban Uganda which was 62.4% and 76% respectively [15,16]. This is due to time difference between this study and those studies as time increase the awareness of people also increase due to accessibilities and availability of health care institution and socio-cultural difference of the study subjects.

As result of this study all of the respondents (100%) were tested to HIV/AIDS. Majority of the interviewed mothers was tested six month ago and the remaining was tested during current pregnancy. From those tested mothers only 79.9% them were have pre and post test counseling services. Lack of counseling and testing in ANC is missed opportunity for PMTCT interventions. This is comparable to the study done in Ambo, Ethiopia which was 100% of the respondent were tested [17]. In contrast to study done in Hawassa referral Hospital which was 96.1%. This difference is explained by increasing accessibility and availability of health institution, health extension worker and health education through different social media and frequent ANC follow up. From this study 69.9% of the pregnant women had discussion with their husband about HIV /AIDS during current pregnancy and 76.3% of pregnant women were whose partner/husbands were tested during the ANC up. This finding was greater than Hawassa referral hospital which was 52.6% [14]. The possible reason for above result improvement is time difference as the time increase the awareness of men towards PMTCT of HIV also increase due to established health extension programme and the presence of excesses communication media. In this study woman who are government employees and whose husbands are government employees were 2.84 times and 4.32 times more knowledgeable on PMTCT of HIV/AIDS than those housewives respectively. This is due to the right to decide to have ANC follow up and due to accesses of information in their work place.

This is concede with study conducted in Uganda on knowledge and attitude of pregnancy women have one use of PMTCT service show that most of them, were economically dependent on their husband so they should got permission to any activity 89% of the women informed to their husband they had come ANC and 68% of them should consult their husband before having test HIV [16]. This shows us improvement in women's empowerment and decrease economical dependency of women enables them to have knowledge of PMTCT of HIV/AIDS, that is use to decrease infant mortality and morbidity.

According to this study, the odds of knowledge towards Prevention of MTCT was about 7 times higher among women who had last ANC follow up (AOR=7.61, 95% CI (3.46, 16.72)) than women who had not last pregnancy ANC follow up .This is due to health education by health care provider in the previous ANC follow up.) This is similar with study was done to assess the knowledge of pregnant mothers attending ANC follow up clinic in Hawassa University Referral Hospital on mother-to-child transmission (MTCT) of HIV show that the odds of knowledge on Prevention of MTCT was 1.4 times higher among respondents having their ANC follow up during last pregnancy (AOR=1.43, 95% CI (1.14, 4.44)) [14]. This shows that increasing pregnant women to have ANC seeking behavior enables them to have better knowledge on PMTCT of HIV/AIDS. Unlike other study, in this study educational status of the respondent had no association with knowledge of PMTCT of HIV/AIDS. According to this study, Place of last delivery and previous ANC follow up had a significant association to attitude of pregnant women towards PMTCT of HIV/AIDS with AOR=1.99,95%CI(1.9,4.39) and AOR=2.24,95%CI(1.04,4.85) respectively. This is similar with other studies done [18]. And women who had ANC follow up during last pregnancy show to have significant association with attitude towards PMTCT of HIV /AIDS (AOR=2.6, 95%CI(2.4, 5.3) [14]. This implies that access to ANC service and institutional delivery, are most likely get the health information including HIV that helps them to have favorable attitude towards PMTCT of HIV/AIDS. Women whose husband/partner have testing during ANC follow up and those who had institutional delivery were 7.5 times and 3.6 times increase utilization of PMTCT services respectively.

Limitations of the study

Since the study is institutional based generalization to the national population is limited.

Conclusion

In conclusion, unlike other finding of many study conducted in Ethiopia on PMTCT of HIV in pregnant women it can be said that the level of knowledge about PMTCT of HIV seems to be high in this study participants. However, there are a lot of knowledge gap and misunderstanding about time of MTCT of HIV/AIDS.

It would be important to narrow that knowledge gap through increasing ANC follow up and by avoiding economical dependence of women. Even if most of the participant had favorable attitude towards PMTCT of HIV/AIDS there is also fear of stigmatization and discrimination which affect attitude of the respondent. So, it should be corrected/addressed by health education and by promoting institutional delivery. Even though all interviewed pregnant women were tested to HIV/AIDS involvement of husband/partner during ANC follow up and testing is still very low therefore it should be improved by creating awareness through health education. In general, knowledge, attitude and practice of pregnancies mothers towards PMTCT service had a significant association with ANC follow up status of the respondents, occupational status of the respondents, site of delivery of the respondents and male involvement in ANC follow up respectively.

Recommendation

Based on the findings this study, the following recommendations were forwarded:

The hospital needs to create awareness about importance of ANC follow up to catchment community.

The hospital needs to create awareness and promote institutional delivery to the community.

In this study partner/husband testing during ANC is very low. Therefore, I would like to recommend to NEMMGH to Promote or encourage involvement of partner or husband in the utilization of PMTCT of HIV/AIDS by health education and in itiate pregnant mother to bring their husband/partner during follow up.

In this study pre and post test counseling of HIV was not much satisfactory. For this reason, I would like to recommend NEMMGH to give Capacity building training for the health care provider by targeting professional ethics primary prevention of HIV and HIV counseling and testing.

Acknowledgements

I would like to express my deepest gratitude and appreciation to my advisor Dr. Ayalew Astatkie for his unre-served all-rounded support and enriching comments. I am greatly thankful to Hawassa University College of Medicine and Health sciences for providing me with financial support to conduct this study. My appreciation goes to the School of Public and Environmental Health as well. I would like to thank Hosanna General Hospital for giving me background information about the hospital which was the setting for this study.

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