

# Male Partner Involvement in Prevention of Mother to Child Transmission of HIV/AIDS at Primary Health Care Unit of Adama Districts, Central Ethiopia

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## Abstract

**Background:** Prevention of Mother to Child Transmission (PMTCT) of Human Immune deficiency Virus (HIV) is extremely important as majority of children with HIV become infected through mother to child transmission. The involvement of male in PMTCT has vital importance in reducing HIV infections from mother to child.

**Objectives:** The objective of this study was to assess the level of male partner involvement in PMTCT HIV/AIDS in Primary Health Care of Adama district East Shawa, Oromia.

**Methods:** Institutional based cross sectional study design was conducted among 752 pregnant women attending antenatal care. Respondents were consecutively approached until sample size required was achieved and the study involved both quantitative and qualitative study design. The data were analysed using SPSS for window version 21 and odds ratio was computed using bivariate and multivariate logistic regressions to assess association between dependent and independent variable.

**Results:** Only 61% of male partner accompany their wives to antenatal clinic or prevention of mother to child transmission services. The independent predictors of male partner involvement were age of husband (AOR=4.5, 95% CI: 1.2, 11.3), occupation of husband (AOR=0.05, 95% CI: 0.004,0.64), family income (AOR: 0.04, 95% CI: 0.01,0.10), HIV test result disclosure and suggestion (AOR=3.9, 95% CI=1.7,9.0), ever had partner visited antenatal care (AOR=10.3, 95% CI=4.5,23.5) and reminding partner (AOR=8.91, 95% CI=4.10,19.35, ).

**Conclusions and recommendations:** the level of male involvement was 61%. It is important to develop strategies of tracing mechanism in providing information for couples on PMTCT services in order to increase male involvement in ANC/PMTCT.

**Keywords:** Male partner involvement IN PMTCT/ANC • Adama district • Central Ethiopia

**Abbreviations:** AIDS: Acquired Immune Deficiency Syndrome • ANC: Antenatal Care • R: Adjusted Odds Ratio • CI: Confidence Interval • COR: Crude Odds Ratio • ETB: Ethiopian Birr • HF: Health Facility • MTCT: Mother To Child Transmission • PHCU: Primary Health Care Unit • PLHIV: People Living With HIV/AIDS • PMTCT: Prevention of Mother to child transmission • SRH: Sexual Reproductive Health • UN: United Nation • VCT: Volunteer Counseling and Testing • WHO: World Health Organization

## Introduction

The world has committed to ending HIV/AIDS (Acquired immune deficiency syndrome) epidemic by 2030. A slight reduction of the infection has been being reported i.e., about 1.9 million in 2015. Adolescent girls and young women aged 15-24 are at particularly high risk of HIV infection, accounting for 20% of new HIV infection among global in 2015 [1-3].

In Sub-Saharan Africa, girls and young women accounted for 25% of new HIV infection among Adult and women according to global 2016 HIV/AIDS report [1]. It remains most affected, nearly 1 in 20 adults are infected, and home to about 70% of PLHIV worldwide, accounting for 71% of the adults and

children newly infected in 2011. Over 90% of new infections in infant and young children occur through MTCT (Mother to Child transmission) accounting for more than 10% of all new HIV infection globally [4,5].

Globally, HIV/AIDS is the leading cause of mortality among women of reproductive age and more than 90% of new HIV infection among infants and young children occur through vertical transmission and each day an estimated 1,000 children under the age of 15 years acquire HIV infection according to UNAIDS 2015 report [3]. The risk can be reduced to less than 2% in a non-breastfeeding population by a package of evidence-based interventions [6]. 2009 alone, an estimated 370,000 children contracted HIV through mother-to-children transmission but decline by 40%-59% between 2009 and 2011, indicating need to scale-up PMTCT interventions in low- and middle-income countries, integrating PMTCT into ANC care centers and in sub-Saharan Africa over 90% of HIV infections in children under the age of 15 years are due to mother-to-child transmission [5,7].

The bulk of HIV in Ethiopia is spread through sexual intercourse between male and female and the rate of HIV transmission from an HIV-positive mother to her child if she is not receiving any antiretroviral medicines ranges between 30% and 45% depending on the duration of breastfeeding and infant born to pregnant women living with HIV is 20% were the rate of MTCT after breast feeding is greater than 15%, with 2% death among children of 1-59 months

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2011 [3]. Currently in Ethiopia there are 154,084 children under 14 years living with HIV/AIDS and 7,792 new infections in 2012. More than 90% of the infection is through mother to child transmission and its main challenges were lack of Males/their Husbands/partners participation in ANC/PMTCT [8].

Of the estimated 2 million people acquiring HIV globally in 2014, nearly half lived in Southern and Eastern Africa where in much of the region Adolescent and Young Women are disproportionate risk [1]. According to UNAIDS 2013 report Ethiopia is one of the few rapid decline Sub-Saharan African countries with a reduction by 50% of new HIV infection among children [9].

PMTCT interventions can be summarized as maternal antenatal HIV testing, the uptake of prophylactic antiretroviral therapy, and formula feeding or exclusive breastfeeding for HIV-infected women [10]. Much more needs to be done to prevent mothers from dying and babies from becoming infected with HIV [3]. However, adequate uptake and adherence to these PMTCT interventions have been challenging for some women if their partners are unaware of or do not support their involvement [11]. The reality is that traditional PMTCT programs focus mostly on women, ignoring the important role of men [12]. Hence, the moderate levels of MTCT success can be partially explained by this narrow focus on women alone [13].

Male involvement is required for prevention of mother to child transmission of HIV. Their involvement in the program can increase the utilization of the service by women through encouraging their partners to visit antenatal clinic. However, until now very little success has been reported with regard to men's involvement. So, this study addressed the challenges for low male involvement and provides initiative recommendation that fosters their involvement at the program and which will help the policy maker to revise the health policies, law and regulation to reduce MTCT of HIV in line of getting HIV free child. Furthermore, information obtained from the study will serve as a baseline data for further research.

HIV infection transmitted from an HIV-infected mother to her child during pregnancy, labor delivery or breastfeeding is known as Mother-To-Child Transmission (MTCT). The prevention of mother-to-child transmission is a highly effective intervention and has huge potential to improve both maternal and child health [6].

Without intervention, 25-40% of infants born to HIV-positive mothers will become infected. With current interventions, this risk can be reduced to less than 5%. Ensuring provision of maternal antiretroviral therapy for pregnant women who require treatment for their own health and effective provision of PMTCT interventions improves maternal health and infant HIV free survival and can substantially reduce paediatric HIV over time. Mother-To-Child Transmission (MTCT) of HIV infection remains a major public health problem and constitutes the most important cause of HIV infection in children less than 15 years old [14].

Men need to test together with their partners, make decisions together on the aspect of safer sex and feeding of the baby. Women who have their partner's support are adherent to PMTCT regimen, family planning decisions which are critical to prevent repeated pregnancies among HIV infected women and some women who test negative during ANC still seroconvert during pregnancy/post-delivery. In addition many reports have shown that Women often identify the lack of support from their husbands or partners as a major barrier to accessing antenatal or other forms of health care [7,15].

## Materials and Methods

### Study setting

The study was conducted at Adama district at primary health care facilities in East Showa zone, Ethiopia from February to April in 2016 which is 90 kms far from Addis Ababa. East Showa zone is one of eighteen administrative zone of Oromia regional states. According to 2014/2015 annual report, the zone has 12 woreda, 10 rural districts and 2 urban administrations and 2,018,911 populations [14].

The district has 9 health centers and 35 health posts. One hundred eighty five health care providers and 66 supportive staffs were working in

the facilities in the district. In all health centers there is provision of ANC and PMTCT service with trained health profession. 2014/15 district health office report shows ANC coverage to be 54% whereas PMTCT coverage 45%. The district has 42 kebele having health post with health extension worker serving community to improve the awareness of the population and nine functional health centers which brought its health service coverage to 100%. The entire health center provides ANC and PMTCT services with mid wives and other health professional like HO and CN [15].

### Study design

Institutional based cross sectional study design using both qualitative and quantitative methods was conducted.

### Study population

Sampled pregnant women attending antenatal care at Adama health center.

### Sample size and sampling procedures

Sample size was calculated using single population proportion formula with prevalence of male partner involvement in the PMTCT was 28.1% according to study done in Addis Ababa, Marginal error of 5% at 95% confidence interval [16]. Considering 10% non-response rate, the total sample size was 376 and adding the design effect of 2 the final sample was 752.

Participants were proportionally assigned to each health centers in the district and participant who came during study period were interviewed consecutively until allocated sample size was obtained in each health center. To avoid over lapping participants folders were marked with red marker.

**For qualitative study:** From each facility at least one ANC service provider with adequate experience were selected using a purposive sampling technique.

## Operational definitions

Male involvement in this study refers to engaging men to participate in health services together with their partners, especially in ANC settings for HIV testing and counselling. It is determined by the proportion of male partners accompanying their pregnant wives during ANC/PMTCT service.

**Attitude:** refers to respondent's belief, opinion toward involvement of male in prevention of mother to child transmission of HIV. Women's attitude towards men involvement in PMTCT program were measured using 10 items on three point likert scale format ranging from agree to disagree. The items covered being tested without husband permission, men accompanying pregnant women to ANC, disclosure of HIV test to partner and using condom. The scale ranges from strongly agree scoring 5, Agree scoring 4, Neutral scoring 3, Disagree score 2 and strongly disagree score 1. The score was summed up and the maximum score were 50 whereas Minimum score 10, the mean was obtained and below mean considered Negative attitudes and above was positive attitude.

**Knowledge:** All the facts that some one knows about a particular subject. Knowledge questions were assessed using participant's correct responses. The questions had a total of 14 points. For each correct response 1 was given and for a wrong response a score of 0. The points were assessed basic knowledge on prevention of mother to child transmission. Then level of knowledge was evaluated based on bloom cuts off point.

- 80-100%=11-14 point=Good Knowledge
- 60-79%=8-10 point=Moderate Knowledge
- <60%=Less than 7 point=Poor Knowledge

## Data collection

Data was collected using structured questionnaire by exit interview. The

questionnaire comprised of four different parts, the first assessing about socio demographic characteristics of woman and man containing religion, ethnicity, level of education, occupation, income, previous HIV test etc., the second part deal with factors that affect attitudes of women toward male involvement covering permission of husband, partner to ANC, condom use etc. that contributed to involvement of male, the third knowledge of mother on PMTCT and level of male partner involvement in PMTCT, whereas the last part focus on qualitative in depth interview for midwives in a selected health center.

There were 18 data collectors who had graduated in diploma and degree and could speak local language (Afan Oromo) and nine Health officers (one from each health center) were used for supervising the data collectors and support during data collection process. One day training was given for the data collectors prior to actual data collection by principal investigator and common understanding was created on the data collection tool through detailed discussion on data collection process. Whole data collection process were coordinated and supervised by the principal investigator. Data were collected using a structured and semi structured questionnaire by reviewing previous similar studies conducted that could capture the objective.

## Results

### Socio-demographic characteristics' of the respondents

A total of 752 respondents attending ANC/PMTCT were interviewed during data collection period making response rate 100%. The mean age of respondents was 24 year (SD=3.821). Almost all of the respondents (94.9%) were currently married. The mean of length of relationship were 5 years with SD + 3.340 with <6 years of relationship accounting for 70.9%. Majority of the respondents 91.2%, were house wife and earn on average 801-1200 ETB (37.6%) with the mean of 1172 ETB (SD + 578). More than three-fourth of the respondents 83.5% had previous HIV test history and 60.5% of them had attended ANC-2. The study revealed that mean age of husbands/partner was 30 years (SD=4.906). Less than half of them (43.6%) had completed primary school and only 0.1% attended University. And almost all of their husbands were farmer, 699 (93.0%) (Tables 1-3).

**Table 1.** Socio-demographic characters of respondents attending ANC, May 2016 (n=752).

Variables	Frequency	Percentage (%)
<b>Place of residence</b>		
Urban	603	19.8
Rural	149	80.2
<b>Marital status</b>		
Currently married	714	94.9
Living with a man but not married	28	3.7
Not married but not separate	10	1.3
<b>Age of respondents</b>		
18-22	240	31.9
23-27	339	45.1
28-32	148	19.7
>=33	25	3.3
<b>Religion</b>		
Orthodox	475	63.2
Muslims	106	14.1
Protestant	171	22.7
<b>Family size</b>		
02-Apr	581	77.3
05-Jul	147	19.5
>=8	24	3.2
<b>Educational status</b>		
No	392	52.1
Primary	311	41.4
Secondary	45	6

College	4	0.5
<b>Current Occupation</b>		
House wife	686	91.2
Others	29	3.9
Local drink seller	18	2.4
Students	11	1.5
Governmental employee	8	1.1
<b>ANC visited</b>		
ANC-1	217	28.9
ANC-2	454	60.4
ANC-3	72	9.6
ANC-4	9	1.2
<b>Duration of relationship</b>		
<=6	533	70.9
7 – 12	185	24.6
>=13	34	4.5
<b>Average family income</b>		
<=800	235	31.3
801- 1200	283	37.6
>=1201	234	31.1
<b>Maternal previous HIV test</b>		
Yes	628	83.5
No	124	16.5

**Table 2.** Socio-demographic characteristics' of respondents partners, May 2016 (n=752).

Variables	Frequency (n=752)	Percentage (%)
<b>Age of partner</b>		
<=25	111	14.8
26-30	338	44.9
>=31	303	40.3
<b>Religion of partner</b>		
Orthodox	477	63.4
Muslims	113	15
Protestant	162	21.5
<b>Educational status of partner</b>		
No	374	49.7
Primary	328	43.6
Secondary	46	6.1
College	3	0.4
University	1	0.1
<b>Current Occupation of partner</b>		
Farmer	699	93
Merchant	18	2.4
Daily laborer	14	1.9
Governmental employee	14	1.9
Others**	7	0.9

## Knowledge of respondents' toward prevention of mother to child transmission of HIV/AIDS

Regarding the knowledge of pregnant mother, 730 (97.1%) of them had ever heard program of PMTCT and 567 (75%) of study participant got the information from Health Extension Workers. Almost all health center where they attend ANC, there was provision of PMTCT and during their ANC visit all of them were being informed. 715 (95.1%) of them thought that positive mother can infect her baby during pregnancy, labor and breastfeeding, respectively. (Table 4)

In general, level of knowledge points range from 0-14, and according to

**Table 3.** Knowledge of respondents on PMTCT, Adama District, May 2016 (n=752).

Knowledge on PMTCT	Response category		
	Response category	Frequency	Percentage (%)
Have you ever heard of program PMTCT	Yes	730	97.1
	No	22	2.9
Is there a PMTCT service in health center were you attend ANC	Yes	730	97.1
	No	22	2.9
Have you heard of program MTCT	Yes	730	97.1
	No	22	2.9
Ever been told about PMTCT during ANC visit	Yes	752	100
Do you think positive mother can infect her baby during pregnancy	Yes	715	95.1
	No	17	2.3
	Not sure	20	2.7
Do you think positive mother can infect her baby during labor	Yes	715	95.1
	No	17	2.3
	Not sure	20	2.7
Do you think positive mother can infect her baby during breast feeding	Yes	715	95.1
	No	17	2.3
	Not sure	20	2.7
Can one partner be HIV positive	Yes	191	25.4
	No	456	60.6
	I don't know	105	14
Possibility of transmission if father positive to mother and father	Yes	730	97.1
	No	22	2.9
Importance of husband to be tested if mother get tested and negative	Yes	730	97.1
	No	22	2.9
Importance of husband to be tested if mother get tested and positive	Yes	730	97.1
	No	22	2.9
Do you practice sexual intercourse during pregnancy	Yes	752	100
Did you use condom while pregnancy during sex	Yes	0	0
	No	752	100

**Table 4.** Attitudes of respondents' toward male involvement in PMTCT, Adama District, East Shawa, Oromia, May 2016.

Items	Response			Total
	Agree n (%)	Neutral n (%)	Disagree n (%)	
A pregnant women can be tested for HIV without permission of her husband	629 (82.3)	92 (12.2)	41 (5.5)	752
Men should accompany their pregnant wives	603 (80.2)	14 (1.9)	135 (18.0)	752
Men who accompany their pregnant wives are weak	140 (18.6)	88 (11.7)	524 (69.7)	752
It is taboo for man to discuss HIV during pregnancy	419 (55.7)	39 (5.2)	294 (39.1)	752
Pregnant should be tested at same time with her man/husband	648 (86.2)	8 (1.1)	96 (12.8)	752
Couples should use condom during sex to reduce HIV while pregnancy	522 (69.4)	97 (12.9)	133 (17.7)	752
ANC is only for women and child	609 (81.0)	86 (11.4)	57 (7.6)	752
Positive HIV test during pregnancy shows unfaithfulness	492 (65.4)	115 (15.3)	145 (19.3)	752
Pregnant women found to be positive should be divorced	536 (71.3)	104 (13.8)	112 (14.9)	752
PMTCT information first given for women than men	624 (83.0)	94 (12.5)	34 (4.5)	752

the finding respondents mean level of knowledge were 85.93% with standard deviation  $\pm 1.024$ , from which 92.3% of participant had good knowledge (Figure 1).

## Respondents' attitude toward male involvement in Prevention of mother to child transmission

According to the study, 619 (82%) of respondents/pregnant women were agreed on statement "women can be tested without permission of her husband". Similarly, 522 (80.21%) were believed men should accompany their wives to ANC and 69.7% disagreed male who accompany their pregnant wife

to be weak and 55.7% of them could think that it was taboo to discuss about HIV during pregnancy. The study also showed that 81.0% of pregnant women participated, agreed that ANC were only for Mother and Child and 83.0% believed that PMTCT information could be given first for female (Table 5).

The mean attitudinal score for the respondent is  $24.83 \pm 3.00$  and 463 (61.6%) respondents had positive attitude and 289 (38.4%) had negative attitude toward male involvement PMTCT/ANC program for prevention of HIV/AIDS.

## Level of male involvement in ANC/ PMTCT of HIV/AIDS

According to the study, level of male involvement in Adama district were

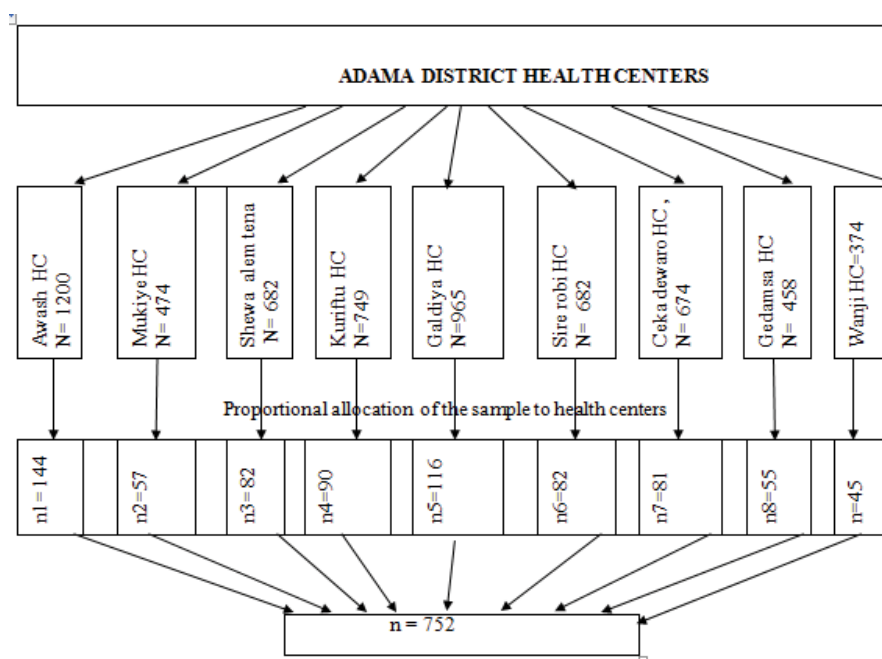


Figure 1. Schematic presentation of the sampling procedures.

Table 5. Association between socio demographics characteristics' and other explanatory variables with male partner involvement in PMTCT, Adama District, May, 2016 (n=752).

Characteristics	Partner involvement		Odds Ratio with 95% CI	
	No (%)	Yes (%)	COR (95% CI)	AOR (95% CI)
<b>Age of partner</b>				
≤ 25	52 (17.7)	59 (12.9)	0.526 (0.337,0.821)**	4.538 (1.480,13.920)**
25 – 30	145 (49.5)	193 (42.0)	0.617 (0.446,0.853)	2.183 (0.914,5.214)
≥ 31	96 (32.8)	207 (45.1)	1	1
<b>Occupation of husband</b>				
Governmental employee	2 (0.7)	12 (2.6)	1	1
Farmer	268 (91.5)	431 (93.9)	0.258 (0.066,1.207)**	0.052 (0.004,0.639)**
Merchant	9 (3.1)	9 (2.0)	0.167 (0.029,0.968)	0.012 (0.001,0.253)
Daily laborer	12 (4.1)	2 (0.4)	0.028 (0.003,0.231)	0.009 (0.001,0.459)
Others*	2 (0.7)	5 (1.1)	0.417 (0.045,3.838)	0.132 (0.003,5.777)
<b>Monthly family income</b>				
≤800	194 (66.2)	41 (8.9)	0.018 (0.010,0.032)*	0.041 (0.016,0.107)*
801-1200	81 (27.6)	202 (44.0)	0.208 (0.120,0.359)	0.226 (0.099,0.517)
>=1201	18 (6.1)	216 (47.1)	1	1
<b>Ready to disclose and suggest HIV test result</b>				
Yes	192 (65.5)	437 (95.2)	10.449 (6.393,17.080)*	3.924 (1.700,9.059)*
No	101 (34.5)	22 (4.8)	1	1
<b>Reminding partner every time for ANC</b>				
Yes	253 (86.3)	451 (98.3)	8.913 (4.108,19.338)*	8.913 (4.108,19.359)*
No	40 (13.7)	8 (1.7)	1	1
<b>Had ever partner visited ANC</b>				
Yes	24 (8.2)	369 (80.4)	13.934 (8.082,24.023)*	10.258 (4.487,23.453)*
No	211 (72.0)	26 (5.7)	0.112 (0.065,0.192)	0.180 (0.082,0.396)
My first time	58 (19.8)	64 (13.9)	1	1
<b>Duration of relationship</b>				
≤6	226 (77.1)	307 (66.9)	0.489 (0.224,1.068)**	0.297 (0.040,2.204)
07-Dec	58 (19.8)	127 (27.7)	0.788 (0.346,1.795)	0.413 (0.058,2.937)
≥13	9 (3.1)	25 (5.4)	1	1
<b>Maternal previous HIV test</b>				
Yes	225 (76.8)	403 (87.8)	2.175 (1.471,3.211)*	0.726 (0.350,1.507)
No	68 (23.2)	56 (12.2)	1	1

\*p-value significant at 0.001, \*\*p-value significant at 0.05

61% and Out of which 78% had counselled and tested for HIV. Majority of the male partner accompanied (93.9%), were farmers which also complement with response forwarded by key informants during describing improvement when compared with previous year.

Over three fourth of respondents' (77.3%), were informed the availability of VCT in ANC and, of which 79.3% had involved. Almost more than half of the male partner 70.3% had arranged transport support for their partner and 4.5% didn't provide any type of help. Majority of the respondents 93.6%, were reminded male partner ever time for ANC and only 12.4% and 4.1% ask partner about fetus and VCT respectively. Three-fourth of respondents 74.5%, and one-fifth 15.2% of them were recommended, male partner could be more motivated and participated in ANC if invitation card and health profession support/ advice could be given.

Almost all of the respondents were not ever tested at same time with partner even though 77.3% informed partner availability of counselling and testing room in ANC. Pertaining to disclosure, 83.6% were ready to disclose and suggest HIV test results and few respondents 0.3%, afraid of divorce for suggestion.

## Why male partner failed to be involved?

According to results of the study; most of them (27.8%), said he was busy and few of them said 2.8% didn't remind their partner and it was in line with what stated by key informants on point what hinders male not to accompany his partner.

### Determinants of male involvement in PMTCT of HIV/AIDS

In bivariate analysis, monthly income, duration of relationship, previous HIV test, ever had accompanied, ever had visited ANC, HIV test result disclosing and suggesting, reminding partner when to visit ANC, age of respondents, age and occupation of male partner were associated with dependent variable. In Multiple logistic regressions, only age of male partner, occupation of male partner, average family income, HIV test result disclosing and suggesting, ever had partner visited ANC and reminding partner every time to ANC had shown significant association at P-value <0.05 and 95% CI (Table 6).

Regarding socio demographic factors older partner were five times less likely involved than younger ones (AOR=4.54, 95% CI=1.48, 13.92). Similarly, farmers were 0.05 less likely accompanied their counter partner than had governmental employee (AOR=0.05, 95% CI=0.004, 0.64). Pertaining monthly average family income, family with income  $\leq$  800 ETB was less likely involved in the ANC/PMTCT than those income  $\geq$ 1201 ETB (AOR=0.04, 95% CI=0.02, 0.11).

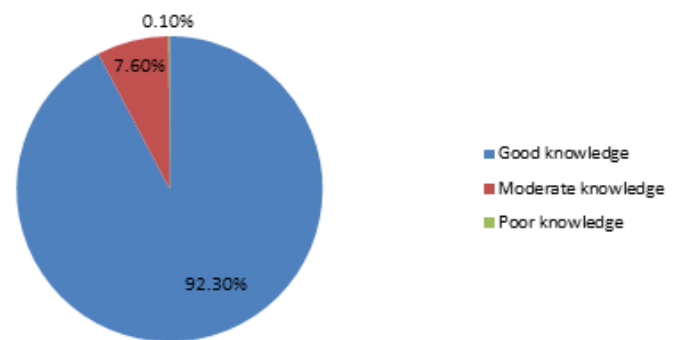
Regarding, maternal with previous HIV test, out of respondents had had HIV test, 87.8% were accompanied by their respective partner and respondents ever had accompanied by partner had high involvement than who hadn't their wives in previous pregnancy, and respondents; read to disclose and suggest HIV testing result were 4 times more likely male partner involved in ANC/PMTCT of HIV program.

Among respondents attending ANC/PMTCT; who reminded their husband were 8 times more accompanied by their counters than others (AOR=8.91, 95% CI=4.11, 19.36). According to the result obtained respondents' husband ever had visited ANC, were ten times more likely involved in ANC/PMTCT than their counters.

## Discussion

In Prevention of mother to child HIV transmission program male partner's involvement is very crucial to eliminate new HIV infection among children and the programs have largely focused on encouraging women to come for PMTCT services with their male partners. According to the finding from a total of 752 respondents participated in the study 61% of respondents were accompanied by their male, and the result was greater than study done in Cameroon, Uganda, Northern Ethiopia and South Omo Southern Ethiopia, in which male

## Knowledge of respondent's on PMTCT



**Figure 2.** Knowledge of respondents' toward prevention of mother to child transmission of HIV/AIDS.

involvement were 41.3%,18%, 21% and 45% respectively and lower than study conducted in North West Ethiopia were 73.7% of male accompany their partner to ANC/PMTCT and in line with finding of qualitative were male involvement showed improvement from previous, whereas the disparity could be due to time of data collection, socio demographic difference and methods employed in the study [17-21].

Out of 61% male partner accompanied their partner 78% were counselled and tested for HIV, which is higher than study done 2012 in North west Ethiopia 54.7% and consistent with study done 2011 in Mekele, Northern Ethiopia 82.1% was resulted from attention paid by the government to maximize skilled delivery by organizing pregnant women conference at each health post [20,21]. And according to the study near to three-fourth 70.3% male partner support their counters by arranging transport which is less than what was reported in Eastern Uganda, 97.0%, and in Addis Ababa Ethiopia 97.9% and almost similar with study conducted in Northern Ethiopia with which was 87.5% and higher than finding from Cameroon (64.7%) [16,18,22,23]. And the difference could be due to socio demographic characteristics and socio-economic characteristics as well as study design used.

According to the result obtained young individuals are 4 times more involved in PMTCT than aged which is significantly different from other study done in Sub Saharan Africa including Ethiopia were aged men more likely involved than their counter and due to the fact that now days in ever kebele there was primary cycle schools which helped young individual to gain knowledge on ANC/PMTCT in addition to presence of hot love between them at this level and supplemented the idea raised by key informants that usually male partner come together with his counters if pregnancy was her first time and had affection (ANC service providers) [20,22,24-26].

In this study occupation of male has significantly associated with male involvement from which male partner who is a farmer were less likely involved in PMTCT than governmental employee, which is consistent with study done in Uganda and Northern west Ethiopia confirmed that drivers and male with other occupations were less likely participate in PMTCT, from the fact that governmental workers could have more knowledge on PMTCT and time to accompany their partners than male partner with other occupations [21,24].

Concerning the family average monthly income those families who earns larger family income were more likely to be involved than less family income strengthening report from Rwanda that men with well-paid jobs more likely involved than less paid in which those who had earn much were possible to cover transport for both of them and other expense needed during visit and contradicts research done in Addis Ababa on governmental health centers, were low income family more likely involved than highest were socio-economic characteristics and study area had played role for discrepancy [16,27]. From the finding male partner ever had visited ANC before were ten times more likely to be involved than had not visited in which those who had ever visited was more experienced and had better understanding about ANC/PMTCT.

According to the result of the study, majority of the respondent (92.3%), had good knowledge on PMTCT and similarly study conducted in Nigeria

and Western Ethiopia reflects that many of participants knew PMTCT of HIV that pregnant women are being counselled and tested at ANC indicating that awareness had been created among pregnant [28,29]. Whereas in Mozambique half mothers in Monica province (58%) and Sofala Province (74%) have heard about PMTCT reflecting there is disparity which was due to socio-demographic and socio-economic characteristics of the study area [26]. Almost out of 92.3% respondents with good knowledge, 93.0% of them accompanied to ANC/PMTCT by their partners in which report from Zambia forwarded that male involvement in PMTCT was influenced by increasing knowledge and the finding justified there could be better involvement where there was a better understanding [30].

From this study, 97.1% of respondents had heard program of PMTCT from different sources, two-third of them, 75.4% were from Health Extension Workers and less than one-third (20.2%), from health institution and similarly to all of them about PMTCT were told during their ANC visit.

According to result of the study out of respondents participated, in more than half of them 61.6% had positive attitudes toward male involvement and 38.4% had negative attitudes. Similarly study done in Ethiopia reported 93.6% had good attitudes and 6.4% had poor attitudes toward PMTCT [29]. Whereas study conducted in Nigeria showed 71.27%, 28.73% had poor attitudes and good attitudes respectively toward male involvement in which socio-demography and socio cultures back ground of respondents might had contribution for the discrepancy [28].

Respondents reminding their partner every time for ANC were 8 times more involved in ANC/PMTCT than did not remind and similarly out of respondents discussing issue of PMTCT with male partner, almost all of their partners were involved in PMTCT and respondents those asked by partner about their visit, majority of them were being accompanied. And this result was depicted in study done in Sub Saharan Africa that where there were no communications between male and female, there were poor male involvement in ANC/PMTCT of HIV/AIDS and supplements which also stated in qualitative that pregnant women who had communication with her husband were more likely accompanied, confirming idea sharing with each other could promote male partner involvement [24,31].

Out of 83.5% respondents with previous HIV test history, more than two-third were accompanied to ANC and two-third were accompanied to ANC and similar with study done in Mable district, Uganda were women who knows their HIV status were four times more involved partner in PMTCT services and pregnant with prior knowledge of HIV test facilitated their partner involvement in which previous knowledge could reduce the proxy of test result to her husband [18,31]. And contradicts with study done in Northern Ethiopia were pregnant mother previously had HIV test, their male partner were less likely accompanied to ANC, whereas the sample size and socio-demographic factors might contributed for its differences [20].

In this study, the length of relationship of partner has no association with male involvement which contradicts study done in Cameroon and Malawi were couple having weaker relationship with each other were less likely to be involved in PMTCT [23,32,33]. And religion, ethnicity and marital status were also not associated which was in line with research conducted in Sub Saharan Africa, were religion and ethnicity not associated revealing that there was no cultural barrier hindering male partner in PMTCT involvement [18].

According to research done in south Africa sero status disclosure increases PMTCT up taking and male involvement, in this study result, pregnant women who are ready to disclose and suggests HIV test result were most likely her male partner to be involved in PMTCT than didn't and similar with study done in Northern Ethiopia in which respondents ready to discloses their HIV test results, were more accompanied and it was also depicted in Malawi low male involvement in PMTCT were resulted from non-disclosure of results reflecting that transparency on result among couple could facilitate partner involvement in ANC/PMTCT [34,35].

## Conclusion

The study were pointed male involvement to be 61% and the independent

predictors were monthly income, occupation of male, age of male partner, ever had male partner ANC visited, reminding male partner ever time for ANC, and ready to disclosing and suggesting test results were significantly associated with male partner. Family with low income, older individuals, and partner who ever had never visited ANC room were unlikely to accompany their counters to ANC and pregnant women who suggested her test result and had had previous HIV test were more likely accompanied by male partner.

## Recommendations

It is recommended that in order to increase involvement through extensive awareness creation by strong interaction between coupled and health professionals by support from health sectors, nongovernmental organization and other concerned bodies by investing on resources required for extensive education. It is also important that to plan and implement strategies of tracing mechanisms in strengthening the linkage of supportive supervision between health professionals and health extension workers.

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## References

1. Jointed United Nation Program on HIV/AIDS. "Global AIDS updates." (2016).
2. Margaret, Reeves. "Scaling up prevention of mother to child transmission of HIV." A report of CSIS, *Global Health Policy Center* (2011).
3. Joint United Nations Program on HIV/AIDS. "2014 progress report on the global plan toward the elimination of new HIV infection among children." (2015).
4. World Health Organisation. "HIV/AIDS report: Department of HIV/AIDS." (2007).
5. World Health Organisation. "Global AIDS update: UNAIDS reporting global AIDS epidemic." (2011).
6. Federal Ministry of Health. "National comprehensive PMTCT/MNCH Training Manual Package Reference Manual, Ethiopia" (2011).
7. United States Agency for International Development. "Global Report: UNAIDS Report on the global AIDS epidemic." (2010).
8. "National Strategic Plan for Elimination of Mother to Child Transmission of HIV (e-MTCT of HIV) 2013-2015." (2013).
9. Joint United Nations Programme on HIV/AIDS. "Progress Report on the Global Plan." (2014).
10. Montgomery, Elizabeth, Ariane van der Straten and Kristine Torjesen. "Male involvement in women and children's HIV prevention: challenges in definition and interpretation." *J Acquir Immune Defic Syndr* 57 (2011): e114-e116.
11. Medley, Amy, Claudia Garcia-Moreno, Scott McGill and Suzanne Maman. "Rates, barriers and outcomes of HIV serostatus disclosure among women in developing countries: implications for prevention of mother-to-child transmission programmes." *Bull World Health Org* 82 (2004): 299-307.
12. Betancourt, Theresa, Elaine Abrams, Ryan McBain and Mary Smith Fawzi. "Family-centred approaches to the prevention of mother to child transmission of HIV." *J Int AIDS Soc* 13 (2010): S2-S2.
13. Theuring, Stefanie, Philo Nchimbi, Brigitte Jordan-Harder and Gundel Harms. "Partner involvement in perinatal care and PMTCT services in Mbeya Region, Tanzania: the providers' perspective." *AIDS Care* 22 (2010): 1562-1568.
14. East Shawa Health Office. "Annual report: Adama, Ethiopia." (2015).
15. Adama Woreda Health Office. "Annual report: Adama, Ethiopia." (2015).
16. Abuhay, Yohannes, Lakew Abebe and Netsanet Fentahun. "Male involvement in prevention of mother to child transmission of HIV and associated factors among males in Addis Ababa, Ethiopia." *Am J Health Sci* 2 (2014): 338-343.

17. Godana, Wanzahun and Abraham Atta. "Prevalence of HIV/AIDS and its associated factors among prevention of mother-to-child transmission (PMTCT) service users in Jinka town health institutions, south Omo zone, south Ethiopia." *Sci J Public Health* 1 (2013): 125-130.
18. Byamugisha, Robert, James Tumwine, Nulu Semiyaga and Thorkild Tylleskär. "Determinants of male involvement in the prevention of mother-to-child transmission of HIV programme in Eastern Uganda: a cross-sectional survey." *Reproductive Health* 7 (2010): 12.
19. Nsagha, Dickson Shey, Gregory Edie Halle-Ekane, Shei Nfor and Ngowe Ngowe, et al. "The role of the male partner in the prevention of mother to child transmission of HIV in Cameroon." *Am J Epidemiol Infect Dis* 2 (2014): 52-59.
20. Haile, Fisaha and Yemane Brhan. "Male partner involvements in PMTCT: a cross sectional study, Mekelle, Northern Ethiopia." *BMC Pregnancy Childbirth* 14 (2014): 65.
21. Amsalu, Endawoke, Gebeyaw Tiruneh and Amanuel Alemu Abajobir. "Level of male partner involvement and associated factors in prevention of mother to child transmission of HIV/AIDS services in Debremarkos town, Northwest Ethiopia." *BMC Pediatrics* (2013): 16-25.
22. Tilahun, Maregn and Shikur Mohamed. "Male Partners' Involvement in the Prevention of Mother-to-Child Transmission of HIV and Associated Factors in Arba Minch Town and Arba Minch Zuria Woreda, Southern Ethiopia." *BioMed Res Int* (2015): 6.
23. Nkuoh, Godlove Dipi, Dorothy Meyer, Pius Tih and Joseph Nkfusai. "Barriers to men's participation in antenatal and prevention of mother-to-child HIV transmission care in Cameroon, Africa." *J Midwifery Womens Health* 55 (2010): 363-369.
24. Ditekemena, John, Olivier Koole, Cyril Engmann and Richard Matendo, et al. "Determinants of male involvement in maternal and child health services in sub-Saharan Africa: a review." *Reproductive Health* 9 (2012): 1-8.
25. Ditekemena, John, Richard Matendo, Olivier Koole and Robert Colebunders, et al. "Male partner voluntary counselling and testing associated with the antenatal services in Kinshasa, Democratic Republic of Congo: a randomized controlled trial." *Int J STD AIDS* 22 (2011): 165-170.
26. UNICEF. "Prevention of Mother-to-Child Transmission of HIV in Manica and Sofala Provinces: A Quantitative and Qualitative Project Evaluation mozambique." (2004).
27. Kowalczyk, Jamease, Pauline Jolly, Etienne Karita and Joseph-Arden Nibarere, et al. "Voluntary counseling and testing for HIV among pregnant women presenting in labor in Kigali, Rwanda." *J Acquir Immune Defic Syndr* 31 (2002): 408-415.
28. Olugbenga-Bello, Ai, WO Adebimpe, FF Osundina and ST Abdulsalam. "Perception on prevention of mother-to-child-transmission (PMTCT) of HIV among women of reproductive age group in Osogbo, Southwestern Nigeria." *Int J Women's Health* 5 (2013): 399.
29. Gurmu, Tesfaye, Tufa Bachu, Likisa Jimma and Alebachew Minyahl, et al. "Knowledge, attitude and practice towards PMTCT of HIV among women attending Ambo Hospital ANC Clinic, West Ethiopia." *J AIDS Clin Res* 6 (2015).
30. Tshibumbu, Desire Dinzela. "Factors influencing men's involvement in prevention of mother-to-child transmission (PMTCT) of HIV programmes in Mambwe district, Zambia." *University of South Africa* (2006).
31. Morfaw, Frederick LI, Lehana Thabane, Lawrence CE Mbuagbaw and Philip Nana. "Male participation in prevention programmes of mother to child transmission of HIV: a protocol for a systematic review to identify barriers, facilitators and reported interventions." *Syst Rev* 1 (2012): 13.
32. Aarnio, Pauliina, Pia Olsson, Agnes Chimbiri and Teija Kulmala. "Male involvement in antenatal HIV counseling and testing: exploring men's perceptions in rural Malawi." *AIDS Care* 21 (2009): 1537-1546.
33. Peltzer, Karl, Deborah Jones, Stephen Weiss and Elisa Shikwane. "Promoting male involvement to improve PMTCT uptake and reduce antenatal HIV infection: a cluster randomized controlled trial protocol." *BMC Public Health* 11 (2011): 778.
34. Nyondo, Alinane Linda, Angela Faith Chimwaza and Adamson Sinjani Muula. "Exploring the relevance of male involvement in the prevention of mother to child transmission of HIV services in Blantyre, Malawi." *BMC Int Health Hum Rights* 14 (2014): 30.
35. Byamugisha, Robert, Anne Astrom, Grace Ndeezi and Charles AS Karamagi, et al. "Male partner antenatal attendance and HIV testing in eastern Uganda: a randomized facility-based intervention trial." *J Int AIDS Soc* 14 (2011): 43.

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