

Fertility Intention and Family Planning Use among People Living with HIV/AIDS in Follow up Care Western Shoa Zone

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Abstract

Human Immune Deficiency Virus (HIV) positive individuals may or may not have intention to have children. They could also have different degrees of utilization and demand for family planning. The desire of HIV infected persons to have children in the future has significant implication for the transmission of HIV to sexual partners or newborns. The study was designed to determine the fertility desire and contraceptive utilization among People Living with HIV in antiretroviral treatment (ART) follow up care in West Shoa Zone. An institution based cross sectional study design supplemented with qualitative in-depth interview was carried out between December 2011 and May 2012. The result showed that 78 (50.3%) male and 112 (36.5%) female respondents had expressed the desire for children, making a total of 190 (41.13%) of all the respondents. One hundred ninety-nine (43.1%) of the respondents were on family planning during the study period. Majority of the respondents 150(71.8%) were using condom. Respondents who showed desire for children were those who have no children, married and whose partners have desire to have children ($P < 0.01$). Those who were using family planning were educated (secondary and post secondary education), married, having three or more children and having knowledge on Mother To Child Transmission of HIV ($P < 0.05$). The study also indicates that a number of women had no information on emergency contraceptive and had shown interest to use if unplanned sex has been practiced. Couples or individuals in need of children should be supported by availing adequate information on Prevention of Mother To Child Transmission service since high number of participants were in need of children

Key Words: Family Planning Use, Fertility Intention, People living with HIV, Antiretroviral treatment

Introduction

At the end of 2010, an estimated 34 million people were living with HIV globally, including 3.4 million children of less than 15 years. In 2010 alone, about 2.7 million new HIV infections was recorded, including

390 000 children of less than 15 years (Hracareacion, 2003, Saha. , 2009)

Globally, the annual number of people newly infected with HIV continues to decline, although there was stark regional variation. In sub-Saharan Africa, where most of the people newly infected with HIV live, an estimated 1.9 million people became

infected in 2010. This was 16% fewer than the estimated 2.2 million people newly infected with HIV in 2001 (Saha. , 2009)

Introducing antiretroviral therapy has averted 2.5 million deaths in low and middle income countries globally since 1995. Sub-Saharan Africa accounts for the vast majority of the averted deaths: about 1.8 million (UNAID and WHO, 2007).

Sub-Saharan Africa is by far the region worst affected by the epidemic, with AIDS remaining the leading cause of death. An estimated 24.7 million adults in Africa are infected with the human immunodeficiency virus (UNAIDs and WHO, 2007). Majority of the HIV infections are transmitted through unprotected sexual intercourse, during pregnancy and childbirth. In the absence of medical intervention the risk of mother to child transmission of HIV is up to 25-40% in Africa (Saha. , 2009). Ethiopia is currently one country with low (1.5%) adult prevalence of HIV/AIDS, with 4.2% in urban and 0.6% in rural areas. Heterosexual HIV transmissions followed by mother to child transmission are responsible for most infection in Ethiopia (FHAPCO 2006).

Providing antiretroviral prophylaxis to pregnant women living with HIV has prevented more than 350 000 children from acquiring HIV infection since 1995. Eighty-six per cent of the children who avoided infection live in

sub-Saharan Africa, the region with the highest prevalence of HIV infection among women of reproductive age (UNAIDs and WHO, 2007).

Antiretroviral Therapy (ART) restores health and fertility in people living with HIV and drastically reduces Mother-to-Child Transmission (MTCT) of HIV. As major efforts are under way to expand access to this life-saving treatment in sub-Saharan Africa, thousands of men and women on ART are resuming a socially productive and sexually active lives involving protected and unprotected sex with or without a desire for children. Numerous behavioral and contextual factors interact in a complex way to determine intended and unintended reproductive outcomes among women living with HIV. Age, marital, educational, and socioeconomic status, cultural and religious beliefs, sexual behavior as well as family size and losses, and access to family planning services are documented predictors of pregnancies (Cooper, et al., 2007, Joseph ,2006, Wosenyelesh , 2006).

In a study done in India most (86 %) of the HIV transmission was through sexual intercourse and since sexual activity is high among the youth, they are more vulnerable to the greatest burden of unwanted pregnancies and the risk of contracting HIV/AIDS (Saha , 2009, and Ron , 1998).

Among women who are HIV-positive, some may still choose to conceive, despite the chances of a poor pregnancy outcome, while other sexually active, HIV-positive women would want contraception. Nam (2007) had reported that, providers need to understand how to counsel and serve HIV-positive women, and should know that some HIV-positive women will not reveal that they are infected. Similarly, a study conducted in South Africa showed HIV-positive women are increasingly wanting to have or are having children as their life expectancy improved. HIV positive men and women give value to pregnancy and child birth and their desire improved as the availability of Highly Active Antiretroviral Therapy (HAART) improved (Mzikazi, *et al.*, 2009). Therefore this study was undertaken to determine the fertility desire and contraceptive utilization among People Living with HIV in antiretroviral treatment (ART) follow up care in Western Shoa Zone.

Materials and Method

Description of the study area

This study was conducted in west shoa zone in three Public Hospitals: Ambo, Gedo and Gindeberet hospitals. Ambo is the capital town of the zone, and is situated 114km west of Addis Ababa.

There were three hospital and 21 health centers in the zone. All the

three hospitals' currently provide free ARV treatment. Among these hospitals, Ambo hospital has the highest number of ART users (more than 7000). The number of PLHIV ever enrolled, ever started and on ART in the zone was 8600,7000 and 2868 respectively (FHAPCO, 2006).

Design, population and sampling technique

An institution based cross sectional study supplemented by qualitative in-depth interview was employed. People living with HIV who had at least one visit to the selected ART units and age group between 18-49 for women and 18-59 for men were the source population. The sample size was calculated using single population proportion formula by considering the proportion of fertility intention of 40.2% PLHIV obtained from Addis Ababa study (Fantahun *et al.*,2008). During calculation of the sample size; 4.5% marginal error and 95% confidence interval assumption was considered and the total sample size was 462. For qualitative study, an in-depth interview was used and based on the homogeneity of gathered information, 10 respondents were selected.

The calculated sample size was then used to recruit study subjects from ART units proportional to the unit's client size. Study subjects in the selected ART units were stratified by sex and sample size for each stratum proportionally allocated. To select study subjects within each stratum

systematic random sampling was used. And non response rate was documented but replaced by another client.

For qualitative study, purposive sampling was applied to select study subjects from each institution. The study participants for qualitative study were selected purposively based on their sex, age, number of children, marital status and education, duration since HIV diagnosis and family planning use after & before HIV diagnosis.

Structured questionnaire was used for quantitative data collection and pretest was done on 10% of the total sample (42 subjects) For in-depth interview, interview guide was used. Data were collected by health officers and Nurses working at ART clinic. The in-depth interview was carried out by the principal investigator after the purpose of the study had been explained to the study subjects.

Data analysis

Data entry was done by EPI info 2000 window and analyzed by SPSS version 17 computer software. The univariate analysis such as percentages, frequency distribution and appropriate graphic presentations was used for describing data. Bivariate logistic regression was done to see the crude association between the independent variables and the dependent variables. The strength of association between dependent variables and independent variables was expressed in odd ratio (OR). The

final step of analysis was multivariate analysis using multiple logistic regression technique to control confounding. Variables included in the technique was restricted to those significantly related at least to one of the two out comes at the bivariate level. Significance level of 0.05 was taken as a cut off point for significance tests.

For the qualitative data, all the audio tape recorded interview was transcribed and translated to English. The translated transcript was reviewed and examined thoroughly and categorized in to primary themes. Then the data was reviewed and combined into broader concepts. The ethical clearance was obtained from Ambo University Ethical Review Committee and informed consent was obtained from each respondent before collecting data.

Result

Socio-demographic characteristics of the respondents

The socio-demographic analysis of the sample population is presented in Table 1. Out of a total number of 462 respondents, 307(66.5%) were female and 155(33.5%) were male with a sex ratio of 0.5. The mean of the respondents age was 27.2 years, ranging from 18-55 years. See table 1 for other characteristics distribution of the sampled respondents.

Table1. Socio-demographic characteristics of PLHIV attending ARV Treatment Units in West Shoa Zone ,Oromia, Ethiopia,2013

Characteristics(n=462)	Number	Percent
Sex		
Female	307	66.45
Male	155	33.55
Age		
18-29	140	30.30
30-39	122	26.41
40+	100	21.65
Educational Status		
Illiterate	74	16.02
Read & write	42	9.0
Primary	75	16.23
Secondary	205	44.37
Postsecondary	66	14.29
Marital status		
Married	280	60.61
Single	85	18.40
Widowed	66	14.29
Divorced/separated	31	6.93
Occupation		
Daily laborer	168	36.36
Merchant	80	17.32
Government employee	74	16.02
House wife	66	14.29
Unemployed	44	9.52
Others**	30	6.49

Others**(Private, Students and House maid)

Sexual behavior and condom use

Two hundred seventy (58.4%) of the total respondents have practiced sexual intercourse during the past six months preceding the survey, of these 185(68.5%) used condom while they had sex. Majority 113 (61.1%) had used condom consistently. Seventy-

seven (28.5%) of the respondents had sex within the past six months preceding the survey, among them 30(39.0%) reported that they never used condom and 33(41.9%) used it inconsistently with all sex partners (Table2)

Table 2: Sexual behavior and condom use among PLHIV attending ARV Treatment Unit in West Shoa Zone , Oromia, Ethiopia, 2013

Characteristics	Number	Percent
Had sex in the past six months(n=462)		
Yes	270	58.44
No	192	41.56
Have used condom(n=270)		
Yes	185	68.52
No	85	31.48
How often(n=185)		
Always	113	61.08
Sometimes	72	38.92
Practice multi partner sex(n=270)		
yes	77	28.52
no	193	71.48
How often have you used condom with all sex partners(n=77)		
Always	14	18.18
Sometimes	33	42.86
Never used	30	38.96

Information on emergency contraceptive and reproductive health characteristics

One hundred Twenty four (26.8%) and 97(21%) of the respondents reported that they had history of abortion by them /their partner and sexually transmitted infection respectively. From those who had history of abortion 93 (75.0%) reported that the time of occurrence was before being tested HIV positive. Three hundred fifty six (77.1%) of the respondents had no information on emergency contraceptive but only 106 (22.94%) had information and from this 106, 75 (70.8%) will have intention

to use it if emergency happen(Table 3).

From qualitative data, a number of women had no information on emergency contraceptive but most had indicated an interest to use during unplanned sexual intercourse.

A woman said" I have no information on emergency contraceptive, I was communicating with my counselor but not yet heard on emergency contraceptive; previously I practice sex with my partner without using condom and other method of family planning and I became pregnant but the pregnancy is not wanted but since I don't have option to stop the

pregnancy and it was continued and I gave birth, now my child is three years old but thanks to God he was free from the infection" (31 years old

woman married with two children and grade six)

Table 3. Information access on reproductive characteristics and emergency contraceptive use among PLHIV attending ART unit in West Shoa Zone ,Oromia, Ethiopia, 2013.

Characteristics	Number	Percent
Any history of abortion(n=462)		
Yes	124	26.84
No	338	73.16
When was the time(n=124)		
Before tested HIV positive	93	75.0
After tested HIV negative	27	21.8
Don't remember	4	3.23
Any history of STI (462)		
Yes	97	21
No	365	79
Information about Emergency Contraceptive(EC) (n=462)		
Yes	106	22.94
No	356	77.06
Intention to use EC when required(n=106)		
Yes	75	70.75
No	30	29.25

Fertility intention

The result of the analysis on fertility intention is presented in Table 4. Out of the total (462) participants in the study, 414 (89.6%) of the respondents had at least one child during the study period and 48 (10.4%) had no none. Seventy eight (50.3%) of the males and 112 (36.5%) of female respondents had expressed the desire for children, giving a total of 190 (41.13%) of all respondents.

One reason for respondents' desire to have children was for the perpetuation of life. A woman said: "When I see kids my heart beat would increase much, since it is a way of building generation I want to replace myself if this is so I will not die." (28 years old woman married with no children)

Table 4: Information on child desire among PLHIV attending ARV Treatment Unit in West Shoa Zone, Oromia, Ethiopia, 2013

Characteristics	Number	Percent
Current number of children you have(n=462)		
No children	48	10.39
One	29	6.28
Two	182	39.39
≥Three	203	43.94
Intention to have children in the future(n=462)		
Yes	190	41.13
No	272	58.87
Time prefer to have child/children(n=190)		
<One year	22	11.58
One-two years	108	56.84
>Two years	54	28.42
Don't know the time	6	3.16
No of children you intend to have in the future(n=190)		
One	116	61.05
Two	54	28.42
Three	13	6.84
>Three	7	3.69
Reason for not wanting children in the future(N=272)		
Have desired no of children	220	47.11
Fear of MTCT risk	104	22.27
Have no adequate income to add another child	60	12.85
Health professional advise not to have a child	43	9.21
Child bearing may further compromise my/my partner's health	26	5.57
Other	14	3.00
Partner /spouse want children in the future(n=462)		
Yes	93	20.13
No	107	23.16
Don't have partner	242	52.38
Don't know	20	4.32

In the bivariate analysis, the characteristics of having post secondary education (COR= 4.35, [95% CI: 1.57-13.09]), being married (COR =2.24, [95% CI: 1.87-5.02]), being unmarried (COR= 25.35[95% CI: 5.06-34.01]), having no children (COR=32.97, [95% CI 23.9-75.31]), one child (COR=14.69, [95% CI: 7.08-47.89]), two children (COR= 3.1, [95% CI: 1.79-10.23]) and partner desire for

children (COR= 16.1, [95% CI: 4.03-43.50]) were positively and significantly associated with fertility desire. While in the multivariate analysis, those who were married (AOR= 4.57, [95% CI:1.91-9.99]), had no children (AOR 13.2, [95% CI:7.05-54.41]), and partner desire for children (AOR= 13.42, [95% CI:4.69-35.72]) were more likely to desire children than their counter parts (Table 5).

Table 5. Associated factor for fertility desire among PLHIV attending ART unit in West Shoa Zone ,Oromia, Ethiopia, 2013

Variables	Fertility desire		COR(95%CI)	AOR(95%CI)
	Yes n (%)	No n (%)		
Age				
18-29	81(57.9)	59(42.1)	1.61(0.51-2.08)	0.97(0.05-3.31)
30-39	63(28.4)	159(71.6)	0.47(0.03-1.73)	0.26(0.04-1.06)
40+	46(46)	54(54)	1	
Sex				
Male	78(50.3)	77(49.7)	1	
Female	112(36.5)	195(63.5)	0.57(0.02-2.79)	0.43(0.02-1.96)
Educational status				
Illiterate	16(21.6)	58(78.4)	1	
Read and write	12(28.6)	30(71.4)	1.45(0.89-14.7)	1.03(0.06-18.93)
Primary	25(33.3)	50(66.7)	1.81(0.80-12.34)	2.06(0.88-13.29)
Secondary	101(49.3)	104(50.7)	3.52(1.00-6.07)	4.45(0.78-6.27)
Post secondary	36(54.5)	30(45.5)	4.35(1.57-13.09)*	1.99(0.53-11.35)
Marital status				
Married	98(35.0)	182(65.0)	2.24(1.87-5.02)*	4.57(1.91-9.99)**
Single/ Non-married partner	73(85.9)	12(14.1)	25.35(5.06-34.01)*	19.7(0.98-28.31)
Widowed	13(19.7)	53(80.3)	1.02(0.02-1.19)	3.32(0.96-11.12)
Divorced/Separated	6(19.4)	25(80.6)	1	
No of children they have				
No child	43(89.6)	5(10.4)	32.97(23.9-75.31)*	13.2(7.05-54.41)**
One	23(79.3)	6(20.7)	14.69(7.08-47.89)*	8.27(3.05-33.73)
Two	82(45.1)	100(54.9)	3.1(1.79-10.23)*	1.23(0.63-4.27)
≥three	42(20.7)	161(79.3)	1	
Partner's desire for children				
Yes	81(87.1)	12(12.9)	16.1(4.03-43.50)*	13.42(4.69-35.72)**
No /Don't have part	109(29.5)	260(70.5)	1	

**having significant association in Multivariate analysis

Family planning

Two hundred (43.3%) of the participants had ever used contraceptive before knew their HIV status and 209(45.2%) used contraception after knew their HIV statu. Majority of family planning users were using injectable

contraceptive 160 (62.8%) before knowing their HIV status followed by pills 60(23.5%), but after they knew their HIV status most were using condom 180(78.3%) followed by injectable 32(13.9%) (Table 6).

Table 6. Distribution of PLHIV under follow up care by contraceptive ever use before and method used after HIV test attending ART unit in West Shoa Zone, Ethiopia, 2013

Characteristics	Before testing HIV positive (n) %	After testing HIV positive (n) %
Contraceptive ever use	n=462	n=462
Yes	200(43.29)	209(45.24)
No	255(55.19)	244(52.810)
Don't remember /not sure	7(1.52)	9(1.95)
Methods used	n= 200	n= 209
Condom	25(9.80)	180(78.26)
Pills(ocp),COC	60(23.53)	12(5.22)
Inject able	160(62.75)	32(13.91)
Implants	10(3.90)	7(3.04)
Tubal legation	0	2(0.87)

One hundred ninety-nine (43.1%) were using family planning methods during the study period. Majority of the respondents, 150(71.8%) were using condom followed by injectable 32 (15.3%).

Similarly from respondents who were not using family planning method during the data collection period, 99(37.64%) showed an intention to use in the future and out of this, 54 (54.55%) intend to use condom followed by injectables 21(21.21%) (Table 7).

Table 7. The distribution of PLWHAs under follow up care by contraceptive use; current and future use attending ARV Treatment Unit in West Shoa Zone ,Oromia, Ethiopia, 2013

Characteristics	Current use n (%)	Future use n (%)
Contraceptive use	n=462	n=263
Yes	199(43.07)	99(37.64)
No	263(56.93)	160(60.84)
not Sure	0	4(1.52)
Methods	n=199	n=99
condom	150(71.77)	54(54.55)
Inject able	32(15.31)	21(21.21)
Pills(ocp),COC	15(7.18)	12(12.12)
Abstain from sex	7(3.35)	4(4.04)
Implants	3(1.44)	5(5.05)
Tubal legation	2(0.96)	3(3.03)

From the bivariate analysis, having secondary (COR=2.25 [95%CI:1.91-5.55]) or post secondary education(COR=2.22[95%CI:1.53-5.02]), being married (COR=16.8

[95%CI: 5.21-25.87]) or single (COR=1.69[95%CI:1.23-3.34]), having three or more children (COR=1.67 [95%CI:1.22-4.13]), having knowledge on mother to child transmission of

HIV (COR=2.33 [95% CI:1.27-5.44]) had significant association with current family planning use. From multi-variate analysis secondary education (AOR=5.42 [95%CI:2.12-12.23]), Post secondary education (AOR=3.46 [95%CI:1.79-11.94]), ,being married (AOR=12.57 [95%CI:6.03-

23.43]), having three or more children (AOR=4.34 [95% CI:2.26-8.34]) and having knowledge on mother to child transmission (AOR=4.39 [95%CI:1.49-9.76]) have significant association than others (Table 8)

Table 8: Factors associated with current FP use among PLHIV attending ARV Treatment Unit in West Shoa Zone ,Oromia, Ethiopia, 2013

Variables	Currently Using *FP		COR(95%CI)	AOR(95%CI)
	Yes n (%)	No n (%)		
Age				
18-29	90(64.3)	70(35.7)	2.39(1.08-7.84)*	2.57(0.97-8.87)
30-39	81(36.5)	141(63.5)	1.07(0.06-2.94)	1.33(0.65-5.52)
40+	28(28.0)	52(72.0)	1	
Sex				
Male	81(52.3)	74(47.7)	1.75(0.08-3.76)	0.57(0.23-1.23)
Female	118(38.4)	189(61.6)	1	
Educational status				
Unable to read/ write	22(29.7)	52(70.3)	1	
Able to read and write	15(35.7)	27(64.3)	1.3(0.004-2.05)	3.34(0.77-7.52)
Primary	30(40.0)	45(60.0)	1.58(0.09-4.06)	2.00(0.05-6.33)
Secondary	100(48.9)	105(51.1)	2.25(1.91-5.55)*	5.42(2.12-12.23)**
Post secondary	32(48.5)	34(51.5)	2.2(1.53-5.02)*	3.46(1.79-11.94)**
Marital status				
Married	180(64.3)	100(35.7)	16.8(5.21-25.87)*	12.57(6.03-23.43)**
Single	13(15.3)	72(84.7)	1.69(1.23-3.34)*	3.23(0.56-7.32)
Widowed	3(4.5)	63(95.5)	0.44(0.05-1.31)	0.73(0.06-2.21)
Divorced/separated	3(9.7)	28(90.3)	1	
No of children current have				
No child	17(35.4)	31(64.6)	1	
One	11(37.9)	18(62.1)	1.11(1.00-2.67)	1.46(0.52-2.4)
Two	74(40.7)	108(59.3)	1.25(0.92-2.03)	2.28(0.36-5.37)
≥three	97(47.8)	106(52.2)	1.67(1.22-4.13)*	4.34(2.26-8.34)**
Partner desire for children				
Yes	40(43.0)	53(57.0)	1	
No	81(75.7)	26(24.3)	4.13(0.92-8.32)	3.35(0.89-7.36)
Don't have part/don't Know	78(29.8)	184(70.2)	0.56(0.08-1.09)	1.23(0.87-5.67)
Knowledge on MTCT of HIV				
Yes	152(49.8)	153(50.2)	2.33(1.27-5.44)*	4.39(1.49-9.76)**
No/ Don't know	47(29.8)	110(70.1)	1	

**Significant association in multivariate analysis; *family planning

Discussion

The study tried to assess fertility intention and family planning use by HIV positive people who were on follow up care. Forty-one percent of HIV positive individuals (50.3% of male and 36.5 % of women) within the reproductive age have an intention to have child. This finding showed a higher fertility desire among the respondents when compared to the study done in Malawi (15%) (Hofman *et al.*, 2008), Uganda 18% (Nakayiwa *et al.*, 2006), and Zimbabwe 30.8% (Feldman *et al.*, 2000). This difference could be due to socio cultural differences and/or the fear of transmission of HIV to child or the general health status. However this finding is lower than the study carried out in Cameroon 55% (Marcellin *et al.*, 2010), Nigeria 63% (Oladapo *et al.*, 2008) and Canada 69% (Loutfy *et al.*, 2009). This may be due to difference in awareness about prevention of mother to child transmission of HIV (PMTCT) and availability of technology, beside Canada in particular is developed country. This finding corroborated that of Berhan (2008) who had reported 41% in Ethiopia

The high fertility intention in the present study had increases concern on considering its implication for controlling vertical as well as heterosexual transmission. Without intervention HIV has 25-50 % risk of transmission from mother to child and in combination of PMTCT method, it can be reduced to 2% (Elizabeth *et al.*,

2001). But the less availability of facility for caesarean section, ARV treatment and safe breast substituting foods could lead to increase in vertical transmission.

The study showed that, 270 (58.44%) of the respondents had practiced sex six months prior to the study, out of which 85(31.5%) never used condom, and from the total respondents, 185 (68.5%)of the respondents who had used condom, 72(38.9%) used it irregularly. Beside this, 270(58.4%) participants who had practiced sex in the past six months prior to the study period, 77(28.5%) practiced sex with multiple partner and 63(81.8%) used condom infrequently or never used. When compared with the study of Fantahun *et al.*, (2008), who had reported that 94% of the respondents used condom consistently in Bahir Dar Ethiopia, (Fantahun *et al.*, 2008) our finding showed a lower number (61.08%) of respondents had used it consistently. This has implication for vertical as well as heterosexual transmission of HIV and other STIs. It also has implication for the chance of unintended pregnancy among the study participants.

Three hundred fifty six (77.1%) of the participants had no information on emergency contraceptive and 75 (70.8%) of the participants who had information had interest to use if unplanned sex was practiced. This implied there was high demand for emergency contraceptive, and because of lack of information there was the

risk of vertical transmissions of HIV, unplanned pregnancy, HIV-infected birth, increasing number of orphans and resulting non productive generation if something emergency happen. This was also supported by qualitative finding.

An important factor associated with fertility desire identified in this study was the number of children. Those who had no children 13.2 (95%CI: 7.05-54.41) times more likely to have preference for children than those who had at least one child. This finding was consistent with that of study done in Addis Ababa (Wosenyelesh , 2006), South Africa (Cooper *et al.*, 2007), Lesotho (Loutfy *et al.*, 2009) and Zimbabwe (Mc Clellin *et al.*, 2010). It also supports the qualitative study result which had attributed it to the socio cultural norms that reflects their need to build generations.

Marital status was found to be associated with fertility desire. Those who were married were 4.57 (95%CI: 1.97-9.99) times more likely to prefer children than those who were single/divorced. This was consistent with the study done in Addis Ababa (Wosenyelesh, 2006) and Lesotho (Loutfy *et al.*, 2009); this could be because both partner lived together and had capacity to provide care for the children even when one passes away.

Another predicting factor associated with fertility was partners desire for children; those respondents whose

partners desire for children were 13.42(95%CI:4.69-35.72) times more likely to prefer children than those whose partners do not desire children. This was also consistent with the study done in Addis Ababa (Wosenyelesh , 2006) and Papua New Guinea (Aska *et al.*, 2011). This could be due to one partner's desire to satisfy the interest of the other. But from this study age, sex and educational status had no association with fertility desire, it disagree with the study done in Addis Ababa (Wosenyelesh , 2006) related to age but concise with the other two.

In the present study, family planning use and future need to use family planning were found to be important for HIV positive individuals to space and limit births and prevention of unintended pregnancy. This could lead to decrease in HIV positive births irrespective of their fertility desire.

The study showed that 43.3% of the study subjects had used at least one method of family planning before their HIV diagnosis; after knowing their HIV status (45.2%) started to use it, during the data collection period 43.1% of the participants were using family planning and 37.6 % were not using during the study period but planned to use in the future. This indicates the continuity of family planning was better in the study area. But the finding was lower than the findings of Wosenyelesh (2006) who had reported 48.9% before diagnosis, 53.3% during study period and 39.7%

intention to use in the future in Addis Ababa, and that of the United State of America where Natalie (2009) reported 70% used contraceptive during similar study. This difference might be attributed to socio behavioral differences between the study area and level of awareness.

The method of choice after HIV test for majority (78.3%) of the respondents was condom followed by injection(13.9%). Before HIV test majority (62.8%) of those who used family planning were taking injectable followed by pills (23.5%). This also showed the presence of method shift from others contraceptive method to condom. This was consistent with the study done in Bahir Dar, Ethiopia (Fentahun *et al.*, 2008). Even if condom was one method of family planning its better if complemented with other family planning methods to boast its effectiveness in preventing unintended pregnancy.

The educational status had shown an association with family planning use. Those who were educated were more likely to use family planning method than their counter parts. This finding was similar to that of Fantahun *et al.*, (2008). These categories of people might have better information about family planning and want to optimize the number of their children. The other reason might be as their level of education increases they were more likely concerned on the risk of transmission of the virus to their children.

Marital status was another factor which had an association with family planning use. Among the study participants who were married/ living together were 12.57(95% CI: 6.03-23.43) times more likely to use family planning method than their counterparts. This was consistent with the findings of Fantahun *et al.*, (2008) and Wosenyelesh (2006) carried out in Bahir Dar and Addis Ababa respectively. This might be due to the fact that those who had no regular partners may had sex rarely or abstain and perceive less risk of getting pregnancy.

The number of children partners already had is one of the factor associated with family planning use. Those who had three or more children were 4.34 (95% CI: 2.26-8.34) times more likely to use family planning than those who had fewer than three children. This might be because they had the desired number of children and want to limit the number of children. Another predictor identified was having knowledge on MTCT of HIV. Those who had knowledge on MTCT of HIV were 4.39 (95%CI: 1.49-9.76) times more likely to use family planning method than those who had no knowledge about it.

Conclusion

This study showed that significant number of HIV positive men and women had an intention for children, which has implications for the

prevention of vertical and heterosexual transmission of HIV. In general those who intended to have children were; those who had no children, married and those respondents whose partners had desire for children.

The choice of family planning method had shifted from hormonal ones before HIV testing to condom after knowing their HIV Sero-status. The most prevalent family planning method among HIV positive individuals were condom. Large number of the study participants had desire to use family planning in the future, indicating a general need for family planning method. Greater number of participants had no information on emergency contraceptive which implied a missed opportunity for prevention of unwanted pregnancy. In general those who use family planning method were; educated(secondary and post secondary education),married, having three or more children and having knowledge on MTCT of HIV.

Recommendation

Better and evidence based understanding of fertility intentions and demand for contraception is needed to promote and protect the rights of People living with HIV to make informed decisions about reproduction and to have access to appropriate sexual reproductive health services.

Couples or individuals in need of children should be supported by availing adequate information on Prevention of Mother to Child Transmission services since high numbers of participants were in need of children.

References

- Adir, T. 2007. Desire for children and unmet need for contraception among HIV positive women. DHS working paper demography and health research, No 2, Lesetho.
- Aska, M. L., Chompikul J., and Keiwkarnka, B. 2011. Determinants of fertility desires among HIV positive women living in the Western highlands province of Papua New Guinea. *World J AIDS* , 1(4) :198-207
- Berhan, Y. 2008: Attitude of people living with HIV/AIDS to be a biological parent and their knowledge on MTCT reduction methods. *Ethiop Med J* , 46(4) :335-347.
- Cooper, D., Harries J., Myer, L, Orner, P, Bracken, H. and Zweigenthal, V. 2007. "Life is still going on". Reproductive intentions among HIV-positive women and men in South Africa. *Social Science and Medicine* 65:274-83
- Central Statistical Agency (CSA) and Ministry of Health (MOH) 2011. *Ethiopian Demographic Health Survey (EDHS)*
- Elizabeth, A. Ellen, G. 2001. Prevention of mother to child transmission of HIV in Africa: A practical guideline for programmers. SARA, USAID
- Feldman, R, Maposhere C 2000. *Voices and choices. A participatory research and advocacy study of reproductive health and rights of HIV positive*

- women in Zimbabwe. *Journal of AIDS Care* 9:14.
- Fentahun, T, and Habte, D. 2008. Fertility intention and family planning utilization among people living with HIV/AIDS in Felege Hiwot Hospital, Bahir Dar, Ethiopia. Msc thesis, Addis Ababa University
- Federal Human immunodeficiencyvirus/ Acquired immune deficiency syndrome Prevention Control Authority (FHAPCO). 2006. Report on progress towards implementation of the declaration of commitment on HIV/AIDS. Ethiopia: Federal Democratic Republic of Ethiopia.
- Hofman I.F, Martinson FE, Powers K.A, Chilongozi DA, Msiska ED, Kachipapa EI 2008: The year-long effect of HIV-positive test results on pregnancy intentions, contraceptive use, and pregnancy incidence among Malawian women. *J Acquired Immune Defic Syndr* 47(4):477-483.
- Hracareacion 2003. Providing HIV/AIDS care in a changing environment 30 (5).
- Joseph, K. 2006. Reproductive intentions and outcomes among women on antiretroviral therapy in rural Uganda.
- Loutfy, M. R, Hart, T. A, Mohammed S.S, Su D, Ralph E. D 2009: Fertility desires and intentions of HIV-positive women of reproductive age in Ontario Canada: a cross sectional study. *PLoS One*, 4 (12):e 7925.(<http://www.plosone.org>)
- Marcellin F, Protopopescu C, Abe C, Boyer S, Blanche J, Ongolo-Zogo P, Koulla-Shiro S, Moatti JP, Carrieri MP, Spire B 2010: Desire for a child among HIV-infected women receiving antiretroviral therapy in Cameroon: results from the national survey, EVAL study. *AIDS Care*, 22 (4):441-451
- McClellan MK, Patel R, Kadzirange G, Chipato T, Katzenstein D. 2010: Fertility desires and condom use among HIV-positive women at an antiretroviral roll-out program in Zimbabwe. *Afr J Reprod Health*, 14(2):27-35
- Mzikazi, N., Indiwe F .2009. Women Living with HIV in South Africa and their concerns about fertility. *AIDS and behavior* 62 (5).
- Nakayiwa S, Abang B, Packel L, Lifshay J, Purcell DW, King R, Ezati E, Mermin J, Coutinho A, Bunnell R 2006: Desire for children and pregnancy risk behavior among HIV-infected men and women in Uganda. *AIDS Behav*,10:S95-S104.
- Natalie De La Cruz 2009. Parenting practices and desire for a child among mothers living with HIV,US.
- Oladapo O. T, Daniel O. J, Odusoga O. L, Ayoola-Sotubo O. 2005: Fertility desires and intentions of HIV positive patients at a suburban specialist center. *J Natl Med Assoc*, 97(12):1672-1681
- Ron G 1998. Pregnancy and HIV/AIDS. America: Johns Hopkins University.
- Saha, A. 2009. Convergence of Sexual and Reproductive Health and HIV/AIDS Services in India. *Path HIV-SRH Convergence Project* 3:1-2.
- United Nation Agency for International Development (UNAID) and World Health Organization (WHO). 2007. AIDs epidemic updates, a global summary of the AIDs epidemic: UNAIDS, WHO
- Wossenyelesh, T and. Mesganaw F. 2006. Fertility desire and family planning demand among HIV positive men and women in follow up care in Addis Ababa antiretroviral treatment units. Masters degree thesis, Addis Ababa University.