

Fertility Intention and Family Planning use Among People Living with HIV/AIDS (PLHIV) on Follow up Care Western Shoa Zone, Anti Retroviral Treatment (ART) Unit, Oromia, Ethiopia

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Abstract

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 their sexual partners or newborns. So, this study contributes a lot for program planner or other interested group. The study was designed to determine the fertility desire and contraceptive utilization among People Living with HIV on ART follow up care in western Shoa Zone. A cross sectional institution based study design supplemented by qualitative in-depth interview was done between December to May 2012. The study was conducted in western Shoa Zone (three Hospital; Ambo, Gedo and Gindeberet hospital), western Ethiopia. The study population were all People Living with HIV who had at list one visit to the selected ART units and age group 15- 49 for women and 15-59 for men and the sample size taken was 462 and data were analyzed by spss version 16 computer software. Those who desire to have child are those who have no child, 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 ($P < 0.05$). This study indicates that Couples or individuals in need of children should be supported by availing adequate information on the Prevention of Mother to Child Transmission of HIV in line with the country's HIV prevention and control plan and strategy since high number of participants are in need of children.

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1. Introduction

At the end of 2010, an estimated 34 million people were living with HIV globally, including 3.4 million children less than 15 years. There was 2.7 million new HIV infections in 2010, including 390,000 among children less than 15 years [1,2].

Globally, the annual number of people newly infected with HIV continues to decline, although there is 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 [2].

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 [3].

Sub-Saharan Africa is by far the region worst affected by the HIV epidemic, with AIDS remaining the leading cause of death there. An estimated 24.7 million adults in Africa are infected with the HIV [3]. A majority of HIV infections are transmitted through unprotected sexual intercourse or are related to childbirth and unplanned Pregnancies. The study done in Ethiopia, Bahir Dar [4]. shows; forty percent of the respondents were sexually active during the past nine months preceding the survey of which 81 (54%) respondents used condom while they did sex. Majority (94%) of users applied it consistently. In the absence of medical intervention the risk of mother to child transmission of HIV is up to 25-40% in Africa [2].

According to 2011 Ethiopian demographic health survey, Ethiopia; currently the country's with low adult prevalence of HIV/AIDS which is 1.5%; 4.2% in urban and 0.6% in rural [5]. Heterosexual HIV transmissions followed by mother to child transmission are responsible for most HIV infections in Ethiopia [6].

In a study done in India most (86%) of HIV transmission in the country were through the sexual route, and the youth highly participate in sexual activity, So it is young people who face the greatest burden of unwanted pregnancies and the risk of contracting HIV/AIDS [2,7].

Some HIV-positive women choose to conceive, despite the chances of a poor pregnancy outcome. Other sexually active, HIV-positive women want contraception. Providers need to understand how to counsel and serve HIV-positive women, and providers should also know that some HIV-positive women will not reveal to them that they are infected [8].

In a study done in South Africa, HIV-positive women are increasingly wanting to have or having children as life expectancy has improved. HIV positive men and women give value to pregnancy and child birth and their desire improved as Highly Active Antiretroviral Therapy become available (HAART) [9].

Providing antiretroviral prophylaxis to pregnant women living with HIV has prevented more than 350,000 children from acquiring HIV infection since 1995. Eighty-six percent of the children who prevent HIV infection live in sub-Saharan Africa, the region with the highest prevalence of HIV infection among women of reproductive age [3].

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 having 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 [10-12].

2. Objective

The general objective of the study is to assess Fertility intention and Family planning use among PLHIV on ART in West Shoa Zone, three Public Hospitals.

3. Material and Method

A cross sectional institution based study supplemented by Qualitative in-depth interview was conducted in West Shoa Zone in three Public Hospitals: Ambo, Gedo and Gindeberet hospital. Ambo is the capital town of the zone, and is situated 114km west of Addis Ababa.

There were three hospitals and 21 health centers in the zone and all the three hospitals were providing free ART during the study period. Ambo hospital had the highest number of ART users; more than 7000. The number of (People Living With HIV) PLHIV ever enrolled, ever started ART and on ART in the zone were 8600,7000 and 2868 respectively [6].

PLHIV who had at least one visit to the selected ART units and age group 15-49 years for women and 15-59 years for men were the study population.

The sample size was calculated using proportion of 40.2 % fertility intention which was obtained from the study done in Addis Ababa [4]. This proportion was used to get the sample size at 4.5% marginal error with 95% confidence interval and the total sample size was 462. The qualitative study sample was depended on the level of saturation of information.

The calculated sample size was used to recruit study subjects from ART units proportional to the unit's client size. Study subjects in the selected ART units 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 technique 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. Pretest was done on 10% of the sample size, 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 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 analysis using cross tabulation or bivariate logistic regression was done to see the crude association between the independent and the dependent variables.

The strength of association between dependent 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 analysis technique were restricted to those significantly related at least to one of the two outcomes (fertility intention and family planning use) at the bivariate level.

Significance level of 0.05 was taken as a cut off point for significance tests, and P-value less than 0.05 was taken to decide that there is a significance association.

In qualitative data all the audio tape record interviews were transcribed and translated to English. The translated transcript was reviewed and examined thoroughly and categorized in to primary themes. Then the data were reviewed and combined in to broader concepts. Finally the concepts were refined in to major themes. The ethical clearance was obtained from Ambo University Ethical Review Committee and informed consent was obtained from each respondent before collecting data.

4. Result

4.1 Socio-Demographic Characteristics of the Respondents

A total of 462 participants were included for the study. Of these 307 (66.5%) were female and 155 (33.5) were male. The mean age of the respondents was 27.2 years, ranging from 18-55 years. One hundred forty (30.3%) of the respondents were in the age group of 18-29 years. Two hundred five (44.4%) of the respondents have attended secondary school. Majority 418 (90.5%) of the participants were Christians and the rest 44 (9.5%) were Muslims. With regard to occupation 168 (36.4%), 80 (17.3%), 74 (16.0%), 66 (14.3%), 44 (9.5%), 30 (6.5%) of the respondents were daily laborer, merchant, government employee, house wife, Unemployed and others (Private, students, house maid) respectively. Concerning the marital status 280 (60.9%), 85 (18.4%), 66 (14.3%), 31(6.9%) were married, Single, widowed and divorced/separated respectively (Table 1).

Table 1: Socio-Demographic Characteristics of PLHIV Attending ART Units Ambo , West Shoa, 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)

4.2 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 whom 185 (68.5%) used condom while they did sex. Majority 113(61.1%) 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 (Table 2).

Table 2: Sexual Behavior and Condom Use Among PLWHAs Attending ARV Treatment Unit, Ambo West Shoa, 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

4.3 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 tested HIV positive. Majority of the respondents, 356 (77.1%), 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 have no information on emergency contraceptive and shows interest to use if emergency happens.

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 on Reproductive Characteristics and Emergency Contraceptive Use Among PLHIV Ambo ,West Shoa ,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

4.4 Fertility Intention

Out of the total participants, four hundred fourteen (89.6%) of the respondents had at least one child during the study period and 48 (10.4%) have no child. Seventy-eight (50.3%) of male and one hundred twelve (36.5%) of female respondents expressed their desire for children, giving a total of 190 (41.13%) of all respondents. Out of those who have desire for children, 116 (61.1%), desired to have one child. One hundred eight (56.8%) of the respondents planned to have children within one to two years. Among those who were not desiring children, 272 (58.9%) put different reasons; that include 220(47.1%) they had desired number of children, 104 (22.3%) fear of mother to child transmission, 60 (12.9%) have adequate number of children, 43 (9.2%) health professional's advice not to have child and other reason. About one-fourth, 93 (20.1%), of the respondents expressed that their partner/spouse has desire for children (Table 4).

Table 4: Information on Child Desire Among PLHIV Attending ART Units Ambo, West Shoa, Oromia, Ethiopia, 2013

Characteristics	Number	Percent
Current no 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

The reason obtained from qualitative data; On the respondent's desire for children is for perpetuation of life.

One 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 child)

Table 5: Factor Associated to Fertility Desire Among PLHIV in Ambo, West Shoa ,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 bivariate analysis

In bivriate analysis, the characteristics having post-secondary education (Crude OR 4.35, 95%CI (1.57-13.09), being married (Crude OR 2.24, 95%CI 1.87-5.02), being single/non married (Crude OR 25.35, 95%CI 5.06-34.01), having no children (Crude OR 32.97, 95%CI 23.9-75.31),one children(Crude OR14.69, 95%CI 7.08-47.89), two children (Crude OR 3.1, 95%CI 1.79-10.23)and partner desire for children (Crude OR 16.1, 95%CI 4.03-43.50) were positively and significantly associated with fertility desire.

In multivariate analysis, those who were married (Adjusted OR 4.57,95% CI:1.91-9.99), had no children(Adjusted OR 13.2,95%CI:7.05-54.41), and partner desire for children (Adjusted OR 13.42, 95%CI: 4.69-35.72) were more likely to desire children than their counter parts (Table 5).

4.5 Family Planning Use

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 contraceptive160(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: Distributions of PLHIV Under Follow Up Care by Contraceptive Ever Use Before and After HIV test , Ambo ,West Shoa ,Oromia, Ethiopia, 2013

Characteristics	Before testing HIV	After testing HIV
	positive (n) %	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%) shows intention to use in the future and from this 54(54.55%)intend to use condom followed by injectable 21(21.21%) (Table 7)

Table 7: Distribution of PLWHAs under Follow Up Care by Contraceptive Use; Current and Future Use, Ambo, West Shoa ,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 bivariate analysis, being secondary/post secondary education, having married/single partner, having three or more children , having knowledge on mother to child transmission of HIV have significant association with current family planning use(P<0.03).

From multi-variate analysis secondary education, Post secondary education ,being married, having three or more children and having knowledge on mother to child transmission have significant association than others (Table 8)

Table 8: Factors Associated with Current FP Use Among PLWHAs in West Shoa ,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 bivariate analysis

5. Discussion

The study tried to assess fertility intention and family planning use by HIV positive people who are 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 shows higher fertility desire among the respondents than the study done in Malawi (15%) [13], Uganda 18% [14],and Zimbabwe 30.8% [15]. This difference may be because of the socio cultural difference and/or the fear of transmission of HIV to child and might also be due to their general health status. However this finding is lower than the study done in Cameroon 55% [16], Nigeria 63% [17] and Canada 69% [18]. This may be due to difference in awareness about PMTCT and availability of technology, beside Canada in particular is developed country. This finding is similar with the study done in Ethiopia 41% [19].

This high fertility intention in our finding 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% [20]. But the less availability of facility for caesarean section, ARV treatment and safe breast substituting foods will keep high figure of vertical transmission.

The study shows that 85(31.5%) of the respondents had practiced sex in the past six months prior to the study period and never used condom, and even if 185 (68.5%) of the respondents had used condom 72(38.9%) used it irregularly. Beside this, from 270(58.4%) who practiced sex in the past six months prior to the study period 77(28.5%) practiced sex with multiple partner of whom 63(81.8%) used condom infrequently or never used. When compared with the study done in Ethiopia, Bahir Dar, 94% of the respondents used consistently [4] but our finding shows lower number of respondents(61.08%) had used condom 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 have no information on emergency contraceptive and 75(70.8%) of the participants who have information about emergency contraceptive have interest to use if emergency happen. This implies there is high demand for emergency contraceptive and because of lack of information on emergency contraceptive; there is a risk of vertical transmissions of HIV, unplanned pregnancy, HIV-infected birth, increasing number of orphans and resulting non productive generation if something emergency happen. The study was also supported from qualitative finding.

An important factor associated with fertility desire identified in this study is the number of children. Those who have no children 13.2 (95%CI: 7.05-54.41) times more likely to have preference for children than those who have at least one child. This finding is consistent with study done in Addis Ababa [12], South Africa [10], Lesotho [18] and Zimbabwe [16]. It is also supported by qualitative study result which is attributed to the socio cultural norms that reflects as their need to build generation.

Marital status is also 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 or separated. This is consistent with the study done in Addis Ababa [12] and Lesotho [18], this could be because both parties(Husband and wife) live together and have capacity to give care for their children even when one passes away the other can take care of the children. In addition most of the time couples want children for support during their old age or while their health becomes deteriorated.

Another predicting factor associated with fertility desire is partners desire for children; those respondents whose partners desire 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 is consistent with the study done in Addis Ababa [12] and Papua New Guinea [21]. This could be if their partners desire to have children, they want to satisfy their partners interest. But from this study age, sex and educational status have no association with fertility desire, it disagree with the study done in Addis Ababa [12] related to age but concise with the other two.

In this study family planning use and future need to use family planning were assessed together with fertility desire. Family planning is important for HIV positive individuals to space and limit births and to prevent unintended pregnancy, so that decreasing HIV positive births irrespective of their fertility desire.

The study shows that 43.3% of the study subjects have ever used at least one method of family planning before their HIV diagnosis, after they knew 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 % of the respondents who were not using family planning during the data collection period planned to use family planning in the future. This indicates the continuity of family planning is better in our study area. But this finding is lower than the finding from the study done in Addis Ababa[12] which is 48.9% before diagnosis,53.3% during study period and 39.7% intention to use in the future and United state of America [22] which is 70% used contraceptive during the study period. This difference might be because of the socio behavioral difference between the study area and their 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 injection followed by pills (23.5%). This also shows the presence of method shift from others contraceptive method to condom. This is consistent with the study done in Ethiopia, Bahir Dar [4] Even if condom is one method of family planning it is better if complemented with other family planning methods to boast its effectiveness in preventing unintended pregnancy.

Being secondary or post-secondary education is an important factor which has an association with family planning use. Those who were educated were more likely to use family planning method than their counter parts. This finding is similar with the study done in Ethiopia, Bahir Dar [4]. These people might have better information about family planning and want to optimize the number of their children.

Marital status is another factor which has 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 is also consistent with study done in Ethiopia, Bahi dar [4] and Addis Ababa [12] This might be due to the fact that those who have no regular partners may make sex rarely or be abstain and perceive less risk of getting pregnancy.

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

6. Strength and limitation of the study

6.1 Strengths

The study is supplemented by qualitative studies which help to explore information further which is not addressed by quantitative result. It gives insight and helps to identify gaps and recommend possible intervention.

6.2 Limitation

Social desirability bias- even though the data collectors trained on confidentiality and respondents right and to read the consent form before they start an interview and explained to the participants as has no link with the services provided, the respondents might have given a desired answer by the counselor or health provider especially on high risk behavior.

7. Conclusion and Recommendation

This study shows that significant number of HIV positive men and women have an intention for children that have important implications for the prevention of vertical and heterosexual transmission of HIV.

In general those who intended to have children were those who have no children, married and those whose partners have desire for children.

The choice of family planning method was 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 have desire to use family planning in the future, indicating general need for family planning method. Greater number of participants has no information on emergency contraceptive which implies 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.

The counseling services should emphasize on the meaning of the fertility desire within the particular context of being sero positive and the need to take in to account not only the risk of transmission to the child but also of the difficulty of combining being a parent with the constraint of their illness. it may be wise to apply systematic advise against pregnancy, but in addition to laying emphasis on the risk, provide adequate information on practicable reproductive options for individuals affected by HIV. This would assist them in making an informed reproductive choice rather than risk taking.

The family planning counseling should promote on consistent and proper utilization of condom and dual method should be emphasized to reduce condom failure, to prevent cross infection and to avoid unwanted pregnancy

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