

## **Fertility Desire and Contraceptive Utilization among People Living With HIV/AIDS on ART in Hosanna Town, Southern 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 contraception. The desire of HIV infected persons to have children in the future has implication for the transmission of HIV to sexual partners or newborns. The study was designed to assess the fertility desire and contraceptive utilization among PLWHAs on ART in Hossana town. Institutional based cross sectional study supplemented by in-depth interview was conducted from January to March 2010 on total sample of 321 who were on ART. Women 18-49 years and men 18-59 years were included. Data was entered by using EPI info 2000 then exported and analyzed by SPSS 17.0. Total of 117 (36.45%) of respondents were desiring children. Respondents with no children (AOR 60.89, 95% CI 8.02-462.05), those who intended to use family planning in the future (AOR 4.35, 95% CI 1.61-11.73) were more likely to desire children. 102(31.8%) were using family planning. Being married (AOR 7.83, 95% CI 1.08-56.79), having three or more children (AOR 4.54, 95% CI 1.12-18.48), and having knowledge on mother to child transmission (AOR 4.29, 95% CI 1.98-9.26) plan to have children in the future (AOR 0.29, 95% CI 0.1-0.82) were significantly associated with family planning. A high proportion of HIV positive individuals desired children. A better and evidence based understanding of fertility intentions and demand for contraception was needed to promote and protect women and men living with HIV/AIDs to make informed decisions about reproduction and to have access to appropriate sexual reproductive health services.

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### **INTRODUCTION**

Ethiopia is currently one of the countries most seriously affected by HIV/AIDS with adult HIV prevalence of 2.1%, 7.7 in urban and 0.9 in rural. Heterosexual HIV transmissions followed by mother to child transmission are responsible for most infection in Ethiopia (FHAPCO, 2006).

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 ART in sub-Saharan Africa, thousands of men and women on ART are resuming socially productive and sexually active lives involving

protected and unprotected sex with or without a desire for children (Cooper *et al.*, 2007). 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 behaviour as well as family size and losses, and access to family planning services are documented predictors of pregnancies (Cooper *et al.*, 2007; Homsy, *et al.*, 2009; Tamene and Fantahun, 2007).

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 know that some HIV-positive women will not reveal to them that they are infected (Nam, 2009).

Without intervention PLHIV women has a 25-50 % risk of infecting her baby and use of combination of ART during pregnancy and labor, delivery by Caesarean section and avoidance of breast feeding are proved measures which have reduced the risk of vertical transmission to less than 2%. This makes positive parenting a viable option at least in countries where ART is widely available (Elizabeth and Ellen, 2001).

Study done in South Africa among HIV-positive women indicated wanting to have or having children as life expectancy has improved. HIV positive men and women give value to pregnancy and child birth with improved access to PMTCT and ART (Nduna and Farlane 2009).

More than 80% of all women living with HIV and their partners are in their reproductive years, many will continue to desire children after learning their positive status. Others may wish to regulate their fertility, so that they can decide whether to try for a pregnancy and when (Craft, et al. 2007). Thus the study tries to assess fertility desire and contraceptive utilization among people living with HIV/AIDS on ART follow up care Hosanna town, southern Ethiopia.

## MATERIALS AND METHODS

Institutional based cross sectional study supplemented by in-depth interview was conducted in Hosanna Town which is located 232km South of Addis Ababa from January to March 2010. The number of PLHIV ever enrolled, ever started and on ART in the town was 1392, 679 and 472 respectively (FHAPCO, 2006). During the study period the number of PLHIV on ART were 621 in the hospital and 20 in the health center. PLHIV who had at least one visit to the selected ART units and age group 18-49 for women and 18-59 for men were the source population.

The sample size was calculated using single proportion formula. Fertility desire of 21.6 % which was obtained from Bahir Dar study (Fentahun, 2008), 4.5% marginal error,  $Z_{\alpha/2}$  at 95% confidence level was used. The total sample calculated was 321.

The calculated sample size was used to recruit study subjects from the selected ARV treatment units proportional to the number of PLHIV in both institutions. Eligible persons were included in the study consecutively. For purposive sampling, study subjects were selected based on their sex, age, number of children, marital status and education, and family planning use. The interview included respondents and key informants (health care provider working in PMTCT, VCT, ART and FP department) till saturation of information.

For quantitative data structured questionnaire was used after training and pretesting the questionnaire for two days. For in-depth interview, interview guide was used. For quantitative, data were collected by health officer and Nurse working at ART clinic. The in-depth interview was carried out by the principal investigator supported by assistant after the purpose of the study has been informed to the study subjects.

Data were entered to EPI info, cleaned and were analyzed using SPSS version 17. Bivariate analysis using bivariate logistic regression was done to see the crude association between the independent variables and the dependent variables. The final step of analysis was multivariate analysis using multiple logistic regression technique to control confounding. Statistical significance was determined through a 95% confidence interval for fertility desire and family planning.

For qualitative data all the audio tape record interview were transcribed and translated to English, collapsed into dominant thematic areas to facilitate analysis. Finally the concepts were refined in to major themes. Ethical approval was obtained from the Institutional Review Board of Medical Faculty, Addis Ababa University.

## RESULTS

### Socio-Demographic Characteristics of the Respondents

A total of 321 participants were included, of those were 226(70.4%) female and 95(29.6%) male. The mean age was 32.2 years. Half of (51.4%) of the respondents were in the age group of 30-39 years. One hundred eighty four (57.3%) of respondents have attended secondary school. With regard to occupation 115(35.8%), 74(23.1%), 61(19%), of the respondents were unemployed, daily laborer, house wife respectively. With regard to marital status, 158(49.2%) were married (Table 1).

**Table 1:** Socio-demographic characteristics of PLWAs attending ARV treatment units, Hossana, Ethiopia, 2010.

Characteristics (n=321)	Number	Percent
<b>sex</b>		
Female	226	70.4
Male	95	29.6
<b>Age</b>		
18-29	102	31.8
30-39	165	51.4
45+	54	16.8
<b>Educational status</b>		
Illiterate/read and write	81	25.2
Primary	35	10.9
Secondary	184	57.3
Postsecondary	21	6.5
<b>Current marital status</b>		
Married	158	49.2
Widowed	93	29
Divorced	49	15.3
Single	17	5.3
Other	4	1.2
<b>Occupation</b>		
Unemployed	115	35.8
Daily labor	74	23.1
House wife	61	19
Merchant	32	10
Government employee	16	5
Others**	23	7.12

\*\* Private, self employed, house maid

### Sexual Behaviour, Condom Use and Reproductive Health Characteristics

One hundred nineteen (37.07%) of the respondents had sex during the six months prior to survey of which 86(72.27%) respondents used condom. Majority 76(88.37%) applied condom consistently. Forty-nine (15.26%) of the respondents respond as they practice multi-partner sex within the past six months preceding the survey.

Sixty six (20.56%) had history of abortion by them /their partner and 53(16.51%) had history of STI. From those who had history of abortion, 52(78.79%) reported that the time of occurrence was before acquiring HIV. Almost majority of the respondents 291(90.65%) had no information on emergency contraceptive but only 30(9.35%) and from this thirty, 20(66.67%) had used it if required. Reason for not desiring to use

Emergency Contraceptive wanted a child 5(50%) (Table 2).

### Fertility Intention

Two hundred eighty two (87.86%) of the respondents had at least one child, 148 (46.11%) of them had three or more children. Thirty-six (37.9%) male and 81 (35.8%) female expressed the desire for children, giving a total of 117 (36.45%) of all respondents. Out of those desiring children 72(61.5%) desired to have one child.

Respondents gave different reason for not wanting children in the future; from these 138(67.6%) since they had enough children, 71(34.8%) fear of mother to child transmission, 25(12.3%) health professional advice and the remaining 18(8.8%) fear that child bearing may further compromise their health.

**Table 2:** Sexual behaviour, condom use, reproductive characteristics among PLWHAs attending ARV Treatment unit, Hossana, Ethiopia, 2010.

Characteristics	Number	Percent
<b>Had sex in the past six months(n=321)</b>		
Yes	119	37.07
No	202	62.93
<b>Have used condom(n=119)</b>		
Yes	86	72.27
No	33	27.73
<b>How often (n=86)</b>		
Always	76	88.37
Sometimes	10	11.63
<b>Practice multi partner sex(n=321)</b>		
Yes	49	15.26
No	272	84.74
<b>Any history of abortion(n=321)</b>		
Yes	66	20.56
No	255	79.44
<b>When was the time(n=66)</b>		
Before acquiring HIV	52	78.79
After acquiring HIV	12	18.18
Don't remember	2	3.03
<b>Any history of STI (n=321)</b>		
Yes	53	16.51
No	268	83.49
<b>Knowledge about Emergency Contraceptive (n=321)</b>		
Yes	30	9.35
No	291	90.65
<b>Do use it if required (n=30)</b>		
Yes	20	66.67
No	10	33.33
<b>Reason for not using Emergency Contraceptive (n=10)</b>		
I want a child	5	50
I fear side effect	3	30
Have no knowledge how to use it	2	20

Almost one-fourth 74 (23.05%) of the respondents expressed that their partner/spouse desire for children and from those partner not desire children cited as had desired number of children 40(48.19%), his/her health status was deteriorated 26(31.33%), fear of risk of mother to child transmission and outside pressure 17(20.48%) have children within one to two years (Table 3).

In bivariate analysis, the characteristics age group 18-29 COR 6.86( 95% CI: 3.03-15.52) , having post secondary education COR 3.72 (95% CI: 1.35-10.22), being single/non married partner COR 14.91(95% CI: 3.12-71.17), having no children or 1-2 children COR 133.43 (95% CI: 29.62-601.00) , partner desire for children COR 7.38(95% CI: 3.89-14.04), being widowed COR 0.33(0.15-0.72) and intention to use FP in the future COR 4.41(95% CI: 2.32-8.37)were significantly associated with fertility desire.

In multivariate analysis; subjects who had no children (AOR 60.89, 95% CI 8.02-462.05), if partner decide not to have children(AOR 0.02,95%CI 0.001-0.41) and having one child more (AOR 9.43,95%CI 2.81-31.62) and those participants who will intend to use family planning (AOR 4.35, 95% CI 1.61-11.73) were significantly associated with fertility desire (Table 4).

Data of qualitative result indicated that respondents had varied reason for child desire. They describe availability of ARV treatment, PMTCT service, partner desire, to build generation and community pressure. A 37 married, with no child man explained, "Since the start of ART my health is getting improved. So I am fully healthy and have adequate income to have a child, beside this my wife is young and eager to give birth."

**Table 3:** Desire for children among PLWHAs on ART, Hosanna, Ethiopia, 2010.

<b>Characteristics</b>	<b>Number</b>	<b>percent</b>
<b>Current no of children you have(n=321)</b>		
No children	39	12.15
One	51	15.89
Two	83	25.86
≥Three	148	46.11
<b>Intention to have children in the future(n=321)</b>		
Yes	117	36.45
No	204	63.55
<b>Time prefer to have child/children(n=117)</b>		
<One year	6	5.1
One-two year	82	70.1
>Two year	28	23.9
Don't know the time	1	0.9
<b>No of children you intend to have in the future(n=117)</b>		
One	72	61.5
Two	28	23.9
Three	10	8.5
>Three	7	6
<b>Reason for not wanting children in the future(N=204)</b>		
Have desired no of children	138	67.6
Fear of MTCT risk	71	34.8
Have no adequate income to add another child	31	15.2
Health professional advise not to have a child	25	12.3
Child bearing may further compromise my/my partner health	18	8.8
<b>Partner /spouse want children in the future(n=321)</b>		
Yes	74	23.05
No	83	25.86
Don't know	1	0.3
Don't have partner	163	50.78

In addition to the above reason, the respondent's trust on PMTCT was another reason. A 37 years widow who had one child said, "Of course, I heard about preventive medication to protect the child from getting infected and I trust on it. My child was asking me all the time as he wants a sibling".

Similarly key informants responded that participants had child desire like any other people and the reason. VCT-counselor said, "PLHIV like any other people want children. They are eager to find children at least one, their reasons; if they have no child, to add more children, in old age they want care and help from them. Beside their intention I advice them it is good if they stop the

intention of fertility because of risk vertical transmission, their economic standard to care for infants. But if they challenge me I give them information on PMTCT service."

Most of the respondents who did not want a child report different reasons. VCT counselor reported, "Those participants who do not need children put different reasons. The major one is taking my advise into consideration, living in low economic status, thinking that leaving children without parenthood and increasing the number of orphans, fear of the risk of HIV transmission, and fear of stigma and discrimination for their children since they see children of other PLWHAs how they live in the community."

**Table 4:** Associated factor of fertility desire among PLWHAs in Hossana, Ethiopia 2010.

Variable	Fertility desire		COR(95%CI)	AOR(95%CI)
	Yes n (%)	No n (%)		
<b>Age</b>				
18-29	59(57.8)	43(42.2)	6.86(3.03,15.52)*	1.30(0.31,5.46)
30-39	49(29.7)	116(70.3)	2.11(0.96,4.65)	0.59(0.16,2.23)
40+	9(16.7)	45(83.3)	1	1
<b>Sex</b>				
Male	36(37.9)	59(62.1)	1	1
Female	81(35.8)	145(64.2)	0.92(0.56,1.50)	0.34(0.12,1.03)
<b>Educational status</b>				
Unable to read/ write	19(26.4)	53(73.6)	1	1
Able to read and write	3(33.3)	6(66.7)	1.40 (.32, 6.14 )	0.99(0.04,26.48)
Primary	15(42.9)	20(57.1)	2.092 (0.89, 4.90 )	3.42(0.66,17.70)
Secondary	68(37.0)	116(63.0)	1.64 (0.89, 2.30)	1.91(0.63,5.79)
Post secondary	12(57.1)	9(42.9)	3.72 (1.35, 10.22)	1.00(0.1,10.19)
<b>Marital status</b>				
Married	63(39.9)	95(60.1)	1.05(0.54,2.02)	5.38(0.30,98.17)
Single/ Non-married partner	19(90.5)	2(9.5)	14.91(3.12,71.17)*	4.31(0.44,42.51)
Widowed	16(17.2)	77(82.8)	0.33(0.15,0.72)*	0.84(0.28,2.48)
Divorced	19(38.8)	30(61.2)	1	1
<b>No of children current have</b>				
No child	37(94.9)	2(5.1)	133.43(29.62,601.00)*	60.89(8.02,462.05)*
One	31(60.8)	20(39.2)	11.20(5.30,23.64)	9.43(2.81,31.62)*
Two	31(37.3)	52(62.7)	4.31(2.22,8.36)	2.44(0.76,7.85)
>=three	18(12.2)	130(87.8)	1	1
<b>Partner desire for children</b>				
Yes	58(78.4)	16(21.6)	7.38(3.89,14.04)*	0.87(0.05,16.35)
No	5(6.0)	78(94.0)	0.13(0.05,0.34)	0.02(0.001,0.41)*
Don't have part/don't know	54(32.9)	110(67.1)	1	1
<b>Like to use FP in the future</b>				
Yes	33(58.9)	23(41.1)	4.41(2.32,8.37)*	4.35(1.61,11.73)*
No/don't know	40(24.5)	123(75.5)	1	1

\* have significant association at 95% CL

**Contraceptive Utilization**

One hundred twenty two (38.01%) of participants ever use contraceptive before learn their HIV status and 108(33.64) were continuing the contraception after test. Majority of the

respondents 96(94.1%) using condom followed by injectable 11(10.8%) and similarly respondents those who were not using during the study period desire to use condom 42 (75%) (Table 5).

**Table 5:** Distributions of PLWHA under follow up care by contraceptive ever use before and after HIV test, Hossana, Ethiopia, 2010.

Characteristics	before n %	after n %
<b>Contraceptive ever use</b>	<b>n=321</b>	<b>n=321</b>
Yes	122(38.01)	108(33.64)
No	193(60.12)	208(64.8)
Don't remember/don't know	6(1.87)	5(1.56)
<b>Method</b>	<b>before (n=122)</b>	<b>after(n=108)</b>
Condom	11(9)	93(86.1)
Pills(OCP),COC	31(25.4)	3(2.8)
Inject able	86(70.5)	16(14.8)
Implants	3(2.5)	1(0.9)
Tubal legation		1(0.9)

In bivariate analysis, being secondary (COR 2.16, 95% CI: 1.12-4.17) and above education (COR 3.11, 95% CI: 1.10-8.82), having married (COR 23.74, 95% CI: 7.07-79.68), having knowledge on MTCT (COR 3.22, 95% CI: 1.83-5.68), no partner COR 0.03 (COR 3.22, 95% CI: 0.01-0.07) has significant association with current family planning use.

In multi-variate analysis, being married (Adjusted OR 7.83, 95% CI: 1.08-56.79), having three or more children (AOR 4.54, 95%CI: 1.12-18.48), those having knowledge on mother to child transmission (AOR 4.29, 95%CI: 1.98-9.26) and like children in the future (AOR 0.29, 95%CI: 0.1-0.82) had significant association with fertility desire (Table 6).

**Table 6:** Associated factor of current FP use among PLWHAs in Hossana, Ethiopia 2010.

Variable	Currently Using FP		COR(95%CI)	AOR(95%CI)
	Yes n (%)	No n (%)		
<b>Age</b>				
18-29	35(34.3)	67(65.7)	1.65(0.78,3.47)	2.64(0.75,9.290)
30-39	54(32.7)	111(67.3)	1.53(0.76,3.10)	1.80(0.61,5.30)
40+	13(24.1)	41(75.9)	1	1
<b>Sex</b>				
Male	36(37.9)	59(62.1)	1	1
Female	66(29.2)	160(708)	0.68(0.41,1.12)	1.15(0.50,2.67)
<b>Educational status</b>				
Unable to read/ write	14(19.4)	58(80.6)	1	1
Able to read and write	3(33.3)	6(66.7)	2.07(0.46,0.32)*	1.11(0.12,10.01)
Primary	13(37.1)	22(62.9)	2.45(1.00,6.02)*	0.86(0.25,2.98)
Secondary	63(34.2)	121(65.8)	2.16(1.12,4.17)*	1.01(0.39,2.63)
Post secondary	9(42.9)	12(57.1)	3.11(1.10,8.82)*	0.58(0.14,2.49)
<b>Marital status</b>				
Married	96(60.8)	62(39.2)	23.74(7.07,79.68)*	7.83(1.08,56.79)*
Single/ Non-married partner	2(9.5)	19(90.5)	1.61(0.25,10.44)	2.34(0.26,20.85)
Widowed	1(1.1)	92(98.9)	0.17(.021,0.65)*	0.20(0.02,2.12)
Divorced	3(6.1)	46(93.9)	1	1
<b>No of children current have</b>				
No child	8(20.5)	31(79.5)	1	1
One	12(23.5)	39(76.5)	1.19(0.43,3.28)	2.14(0.53,8.7)
Two	28(33.7)	55(66.3)	1.97(0.80,4.86)	2.31(0.62,8.6)
>=three	54(36.5)	94(63.5)	2.23(0.96,5.19)	4.54(1.12,18.48)*
<b>Partner desire for children</b>				
Yes	44(59.5)	30(40.5)	1	1
No	51(61.4)	32(38.6)	1.09(0.57,2.06)	2.83(0.50,15.92)
Don't have part/don't know	7(4.3)	157(95.7)	0.03(0.01,0.07)**	6.59(1.07,40.44)*
<b>Knowledge on MTCT of HIV</b>				
Yes	83(39.7)	126(60.3)	3.22(1.83,5.68)**	4.29(1.98,9.26)*
No/ Don't know	19(17.0)	93(83)	1	1
<b>Like children in the future</b>				
Yes	44(37.6)	73(62.4)	1.52(0.94,2.46)	0.29(0.10,0.82)*
No	58(28.4)	146(71.6)	1	1
<b>Recent CD4 count</b>				
<200	18(42.9)	24(57.1)	1	1
200-500	66(30.0)	154(70.0)	0.57(0.29,1.12)	0.42(0.16,1.14)
>500	18(30.5)	41(69.5)	0.59(0.26,1.34)	0.76(0.22,2.63)

\*have significant association at 95% CL.

Respondents who use contraceptive gave different reasons for their use; mainly to protect pregnancy, health professional advice and fear of cross infection; reasons for not using FP were family planning and ARV medication interaction, need child in the future and abstained from sex. A 24 year never married, with no child woman expressed, "The health care provider told me that I have to use condom regularly not to get pregnant and protect re-infection with another type of virus."

## DISCUSSION

The study tried to assess fertility desire and contraceptive utilization among PLHIV on ART. 36(37.9%) male and 81(35.8%) female respondents expressed the desire for children, giving a total of 117 (36.5%). About 32% were using FP and 25.6% want to use family planning in the future. It is consistent with study done in Lesotho (39 %) (Adir, 2007).

A study done in Zimbabwe indicated that 30.8% HIV-positive women became pregnant after their diagnosis, with 43.8% of pregnancies desired. It slightly lower than study done in Addis Ababa which showed 44.7% of women and 35.2% of men desired children ((Tamene and Fantahun, 2007)). This is a cause for concern considering its implication for controlling vertical as well as heterosexual transmission. In the absence of medical intervention the risk of MTCT of HIV is up to 25-40% in Africa (Saha, April 2009). Without intervention has 25-50 % risk of transmission from mother to child but it can be reduced to 2% by cesarean section in combination of PMTCT ( Elizabeth and Ellen, 2001). This shows that many of these people are from low socio economic status so unable to access optimal care for themselves and to reduce the likely hood of transmission to the new born.

An important factor associated with fertility desire identified in the study was the number of children. Those who had no children were more likely to desire children than who had one or more children, the finding agree with the result of qualitative study. This study was also consistent with study done at Addis Ababa, South Africa and Lesotho (Adir, 2007; Cooper *et al.*, 2007; Tamene and Fantahun, 2007). This is attributed to the socio cultural norms that reflect as they need to build generation.

Another predicting factor associated with decreased likelihood of fertility desire was intention to use family planning in the future. This implies the truth that family planning is important to space or limit birth.

Family planning use was assessed together with fertility desire. The study showed that 38% of study subjects ever used at list one method of modern FP methods before HIV diagnosis. It was reduced to 33.6% after HIV diagnosis, to 31.8% during the study period and 25.6% need to use in the future, the number was going reduced. This might be due to drug interaction, sero positive result and immediate behavioral change that might occur after HIV diagnosis. This finding is lower than the study done at Addis Ababa (Tamene and Fantahun, 2007). This might be the availability of good quality counseling and integration of FP and ART services at Addis Ababa due to specialized health institutions. The finding has implication for the timing of family planning counseling.

The most common preferred method of family planning after HIV diagnosis and during the study period was condom. It also reflects the presence of method switch from others to condom, also supported by qualitative data. It implies that it is necessary not to rely only on condom rather combination of condom with other modern contraceptive.

Significant proportion (80.2%) respondents reported that they used condom to prevent other STDs; however, 27.7% of participants who themselves made sex in the past six months prior to survey not using condom and 11.6% used irregularly. This has implication for vertical as well as heterosexual transmission of HIV. It also has implication for the chance of unintended pregnancy among the study participants.

## CONCLUSION

Marriage was important factor which has an association with contraceptive use. Those married were more likely to use family planning. Because those participants had frequent sexual contact and fear unintended pregnancy but those without regular partner might in sex rarely or abstained and they perceive less risk of getting pregnancy, these result are consistent with qualitative finding. Those respondents having children of three or more strongly associated with current family planning use. These people may want to limit their number of children with their socio economic status.

Another finding which had strong association was knowledge on mother to child transmission of HIV. Those participants having knowledge /information on mother to child transmission of HIV were more likely using family planning. It is consistent to the study done in Lesotho



(Adir, 2007). These shows knowledge have influence on family planning use, the service provider should fill the knowledge for those who were having less information. Those participants who desired children in future were less likely to use family planning. This might imply during the study period those participants were not using family planning; they might be pregnant or they desired for children. Two hundred ninety one (90.65%) participants had no knowledge on emergency contraceptive and 20(66.67%) participants who knew about emergency contraceptive wanted to use it if emergency happen which was consistent to study done in South Africa (Saha, 2009). This pave the way to vertical transmissions of HIV if unintended pregnancy, so it has programmatic implication.

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