

## **Fertility Desire and Reproductive Health Care Needs of Men and Women Living with HIV/AIDS in Nekemte, East Wollega, Ethiopia**

**Tesfaye Regassa<sup>1\*</sup>, Mesganaw Fantahun<sup>2</sup>**

<sup>1</sup>College of Medical and Health Sciences, Wollega University, Post Box No: 395, Nekemte, Ethiopia

<sup>2</sup>School of Public Health, Addis Ababa University, Addis Ababa, Ethiopia

### **Abstract**

Understanding fertility desire and reproductive health care needs of HIV positive men and women in the era of better access to antiretroviral therapy and improved health status is important in planning and organizing appropriate health services. To assess the fertility desire and reproductive health care needs of men and women living with HIV/AIDS in Nekemte town, East Wollega, Ethiopia. A facility based comparative cross-sectional study was conducted among PLHIV both men and women from February to March 2010 on a total sample of 592 respondents in Nekemte town using structured questionnaires complimented by an in-depth interview. Men had higher desire to have a child than women (40.5% versus 30.7%). Men and women who were sexually active in the six months prior to survey were 78.4% and 61.8% respectively. Being male (AOR: 1.7, 95% CI: 1.1-2.8), having no living child (AOR: 13.1, 95%CI: 5.3-32.3), or having less than three living children (AOR: 4.2, 95%CI: 2.2-8.0), having partner desiring child (AOR: 15.4, 95%CI: 9.2-25.8), CD<sub>4</sub> count  $\geq$ 200 (AOR: 2.0, 95%CI: 1.2-3.5) were significantly associated with fertility desire. Health care delivery should consider the desire for children by men and women living with HIV/AIDS in order to avert preventable untoward health and related consequences.

### **Article Information**

#### **Article History:**

**Received** : 18-06-2012

**Revised** : 26-08-2012

**Accepted** : 30-08-2012

#### **Keywords:**

Nekemte

Fertility Desire

Health Care

#### **\*Corresponding Author:**

**Tesfaye Regassa**

**E-mail:**

regassatesfaye@gmail.com

### **INTRODUCTION**

Globally, there were 33.3 million people living with HIV at the end of 2009 compared with 26.2 million in 1999—a 27% increase (UNAIDS, 2010). In Ethiopia, according to calibrated single point estimates (2007), the national adult HIV prevalence was 2.1% (MOH, 2007).

Most people living with HIV/AIDS are of childbearing age and face difficult choices concerning their sexuality and childbearing (Askew and Berer, 2003; USAID, 2007; WHO, 2006). As access to ART increases, HIV can be experienced as a chronic but treatable disease; PLHIV are more likely to desire children. In developed and developing countries women with HIV desiring child were 18% to 43% (Askew and Berer, 2003; WHO, 2006). In Uganda men were nearly four times more likely to desire child (Nakayiwa *et al.*, 2006). Reports from Uganda

and South Africa suggested that ART was associated with an increase in unplanned pregnancies (Myer *et al.*, 2007; Nakayiwa *et al.*, 2006). Thus helping men and women living with HIV/AIDS avoid unintended pregnancies is an important component of programmes to prevent mother to child transmission (PMTCT) (WHO, 2006).

Many women with HIV who are sexually active want to prevent pregnancy. Despite the desire to avoid having children, many women with HIV experience unintended pregnancies (USAID, 2007; WHO, 2006). It is critically important to assist PLHIV in both preventing unwanted pregnancies and giving birth as safely as possible knowing their desire for child. Prevention of unintended pregnancies among HIV infected women is one key strategies of PMTCT and male involvement is one important principle for PMTCT

(MOH, 2007). Family planning services have great potential in promoting sexual health and in efforts to prevent and treat HIV/AIDS (Cooper *et al.*, 2005; USAID, 2007; WHO, 2006).

In countries like Ethiopia with high prevalence of HIV, low levels of contraception and high value of childbearing, elucidating fertility desire may inform national policy decisions on PMTCT, HIV education and family planning programs (NNPWE, 2007).

People who start ART may find that, with their return to health, they become more sexually active, resume fertility desire. However, individuals found it difficult to reconcile safer sex messages with their desire to reproduce (Cooper *et al.*, 2005; USAID, 2007; WHO, 2006).

The extent of desire of child bearing and how it varies by individual, social, health and demographic characteristics is not well understood. The desire of PLHIV both men and women to have children has implication for the transmission of HIV to sexual partners or newborns. It helps health care providers providing ART services integrated into all potential PMTCT. Thus the study tries to assess the fertility intention and reproductive health care needs of men and women living with HIV/AIDS in Nekemte town, East Wollega, Ethiopia.

## MATERIALS AND METHODS

A facility based comparative cross-sectional study among PLHIV both men and women complemented by an in-depth interview was conducted from February to March 2010 in Nekemte town; located at 331km to West of Addis Ababa. Total number of people on Highly Active Anti Retroviral Therapy in Nekemte hospital and health center was 1528 and 284 respectively (ARC, 2010). The study population were all men and women who had at least one visit in the selected health institutions during the study period for ART. Women and men aged 18-49 years and 18-59 years respectively were eligible to participate in the study. PLHIV who were feeling severely ill, unable to hear were excluded.

Sample size was calculated based on a difference between two population proportions, using fertility desire 40.3% and 28.2% among men & women PLHIV respectively in SNNPR (Debeko, 2007), male to female ratio of 1:1, 95% confidence level ( $Z_{\alpha}$ ), 80% power ( $Z_{\beta}$ ), 15% non-

response rate. Accordingly, the estimated total sample size was 592 (296 men and 296 women). The study population was included proportional to the institutions client size. In each of the selected health facilities, participants were consecutively included in the study until the required sample size was achieved. For qualitative method equal number of men and women were interviewed till saturation of idea using purposive sampling to recruit interviewees.

The questionnaire was initially prepared in English, translated to Afan Oromo, and back to English. It was then pretested among clients from ARV units who were excluded from the final survey. For qualitative study, semi-structured questions were used to probe reasons for fertility desire moderated by the principal investigator. Note was taken by the rapporteur.

Four counselors working in the ART unit administered the questionnaire after they took two days training. Two supervisors with first degree in Nursing were trained and supervised the data collection process closely.

Data were entered to EPI info, cleaned and were analyzed using SPSS version 16. Percentages were compared for men and women. Statistical significance was determined through a 95% confidence interval for fertility desire.

Responses to open-ended questions were transcribed, collapsed into dominant thematic areas to facilitate analysis. The analyses for qualitative data were done manually.

Ethical approval was obtained from the Institutional Review Board of Medical Faculty, Addis Ababa University. The purpose of the study was clearly explained, consent and confidentiality was ensured.

## RESULTS

### Socio-Demographic Characteristics of the Study Participants

A total of 592 PLHIV were interviewed. Men and women were each 296. Mean age for men and women was 35.3 and 30.8 years respectively. About 66% of men and 53% women respectively were married/in relationship. Regarding education, 164(55.4%) of men and 126(42.6%) of women were attended secondary and above education. Men and women who worked in government/private employment were

104 (35.1%) and 56 (18.9%) respectively. Median family income for men and women were 300 and 167.5 birr respectively (Table 1).

### Sexual Activity and Pregnancy Since Hiv Diagnosis

Men and women who were sexually active in the six months prior to the survey were 78.4% and 61.8% respectively of which 189(81.5%) of men and 153(83.6%) of women had sex with regular partner. About 71% of men's partner were tested of which 161(77%) were positive. Among women, 187 (63.2%) of their partner were tested of which 142(76%) were positive.

Twelve percent of men's partner and women reported to be pregnant after they had known

their serostatus of which 25(69.4%) and 20(55.6%) of men and women respectively reported that it was intentional.

Knowledge about HIV transmission from mother-to-baby was 99.0% and 94.9% among men and women respectively. Women and men who heard of drugs that reduces transmission of virus from mother to child were 97% of which 260 (95%) of men and 274(96%) of women reported the drugs actually reduces transmission.

About 95% of men and women reported improvement in health status. About 65% of men & 59.8% of women respectively had been on ART for  $\leq 2$  years. Sixty five percent of men and 59.8% of women had CD4  $\geq 200$  (Table 2).

**Table 1:** Socio-demographic characteristics of men and women on ART in Nekemte town, Ethiopia, February 2010.

| Characteristics                   | Men(n=296)  | Women(n=296) |
|-----------------------------------|-------------|--------------|
| <b>Age (years)</b>                | <b>n(%)</b> | <b>n(%)</b>  |
| 18-29                             | 70(23.6)    | 136(45.9)    |
| 30-39                             | 133(44.9)   | 127(42.9)    |
| $\geq 40$                         | 93(31.5)    | 33(11.1)     |
| <b>Mean (<math>\pm</math>SD)</b>  | 35.3(8.3)   | 30.8 (6.3)   |
| <b>Educational Status</b>         |             |              |
| No education                      | 86 (29.1)   | 109 (36.8)   |
| Primary                           | 46(15.5)    | 61(20.6)     |
| Secondary and above               | 164(55.4)   | 126(42.6)    |
| <b>Marital Status</b>             |             |              |
| Married/inrelationship            | 195 (65.9)  | 157 (53.0)   |
| widowed/divorced/separated        | 65 (22.0)   | 121 (40.9)   |
| never married                     | 36 (12.2)   | 18 (6.1)     |
| <b>Occupation</b>                 |             |              |
| Daily laborer                     | 115 (38.9)  | 91(30.7)     |
| government/private employee       | 104 (35.1)  | 56 (18.9)    |
| Unemployed                        | 26 (8.8)    | 82 (27.7)    |
| Merchant                          | 21 (7.1)    | 35 (11.8)    |
| Farmer                            | 26 (8.8)    | 12 (4.1)     |
| Others**                          | 4 (1.4)     | 20(6.8)      |
| <b>Monthly Family Income(ETB)</b> |             |              |
| No income                         | 35(11.8)    | 58(19.6)     |
| less than 150                     | 89(30.1)    | 117(39.5)    |
| 151-300                           | 67(22.6)    | 61 (20.6)    |
| >300                              | 105 (35.5)  | 60(20.3)     |
| <b>Median</b>                     | 300         | 167.5        |

\*\* House Maid, Private Self Employment, Retired.

**Table 2:** Sexual activity and HIV related information of men and women living with HIV in Nekemte town, East Wollega, Ethiopia, February 2010.

| Characteristics  | Men          | Women        |
|--|--------------|--------------|
|  | n(%)         | n (%)        |
| <b>Sexually active in the last sixth months</b>                                | <b>n=296</b> | <b>n=296</b> |
| Yes  | 232 (78.4)   | 183 (61.8)   |
| No   | 64 (21.6)    | 113 (38.2)   |
| <b>Sex with whom?</b>  | <b>n=232</b> | <b>n=183</b> |
| Regular partner  | 189(81.5)    | 153 (83.6)   |
| None regular partner(casual)   | 39 (16.8)    | 26 (14.2)    |
| No response  | 4(1.7)       | 4(2.2)       |
| <b>Partners tested</b>   | <b>n=296</b> | <b>n=296</b> |
| Yes  | 209 (70.6)   | 187 (63.2)   |
| No   | 57 (29.4)    | 44 (36.8)    |
| <b>Partners HIV status</b>   | <b>n=209</b> | <b>n=187</b> |
| Positive   | 161(77)      | 142(76)      |
| Negative   | 48 (23)      | 45 (24)      |
| <b>Sexual desire</b>   | <b>n=296</b> | <b>n=296</b> |
| No change  | 135 (45.6 )  | 165(55.7)    |
| Decreased  | 99 (33.4)    | 93 (31.4)    |
| Increased  | 62 (20.9)    | 27 (9.1)     |
| No Response  | 0 (.0 )      | 11 (3.7)     |
| <b>Pregnancy or partner pregnancy since HIV diagnosis</b>                      | <b>n=296</b> | <b>n=296</b> |
| Yes  | 36 (12.2)    | 36 (12.2)    |
| No   | 260(87.8)    | 260 (87.8)   |
| <b>Was it intentional pregnancy?</b>   | <b>n=36</b>  | <b>n=36</b>  |
| Yes  | 25 (69.4)    | 20(55.6 )    |
| No   | 11 (30.6)    | 16 (44.4)    |
| <b>HIV transmit from mother to child</b>                                       | <b>n=296</b> | <b>n=296</b> |
| Yes  | 281(94.9)    | 293(99.0)    |
| No   | 15 (5.1)     | 3 (1.0)      |
| <b>Attitude toward drug given to reduce MTCT actually reduces transmission</b> | <b>n=273</b> | <b>n=285</b> |
| Yes  | 260 (95)     | 274 (96)     |
| No   | 12 (4)       | 10 (4)       |
| Don't know   | 1 (.7)       | 1 (.3)       |
| <b>Self reported changes in health</b>   | <b>n=296</b> | <b>n=296</b> |
| Improved   | 279 (94.3)   | 281 (94.9)   |
| Not improved   | 17 (5.7)     | 15 (5.1)     |
| <b>Duration of time on ART(in years)</b>                                       | <b>n=296</b> | <b>n=296</b> |
| ≤ 2 yrs  | 192(64.9)    | 177 (59.8)   |
| >2yrs  | 104(35.1)    | 119(40.2)    |
| <b>Recent CD4 count (cells/mm<sup>3</sup>)</b>                                 | <b>n=296</b> | <b>n=296</b> |
| <200   | 192(64.9)    | 177 (59.8)   |
| ≥ 200  | 104(35.1)    | 119(40.2)    |

### Fertility Desire of Men and Women

Forty one percent of men and 30.7% of women wanted to have a child of which 71% of men and 69% of women respectively were not decided when to have a child. Reasons for

desiring a child among men and women were wanting more children (56 (47%) and 45 (49%) respectively) followed by the desire to have at least one child 48(40%) and 41 (45%) respectively (Table 3).

**Table 3:** Fertility intentions of men and women living with HIV/AIDS on ART in Nekemte town, East Wollega, Ethiopia, February 2010.

| Characteristics                                      | Men (%)      | Women (%)    |
|--|--------------|--------------|
| <b>Number of alive children</b>                      | <b>n=296</b> | <b>n=296</b> |
| No living child                                      | 73 (24.7 )   | 68(23.0)     |
| 1-2  | 139(47.0)    | 128(43.2)    |
| > 2  | 84(28.4)     | 100(33.8)    |
| <b>Want to have child</b>                            |              |              |
| Yes  | 120(40.5)    | 91 (30.7)    |
| No   | 176(59.5 )   | 205 (70.3)   |
| <b>When do you desire to have a child?</b>           | <b>n=120</b> | <b>n=91</b>  |
| Within next 12 months                                | 12(10)       | 9(10)        |
| within one to three years                            | 21(18)       | 15(16)       |
| after three years                                    | 2(2)         | 5(5)         |
| Not decided when to have a child                     | 85(71)       | 62(68)       |
| <b>Reason for their current fertility desire</b>     | <b>n=120</b> | <b>n=91</b>  |
| Want at least one child                              | 48(40)       | 41 (45)      |
| I did not have desired number                        | 56 (47)      | 45 (49)      |
| Desire of partner, family                            | 10(8)        | 3 (3)        |
| Others*  | 12(10)       | 5(5)         |
| <b>Reason not to desire a child</b>                  | <b>n=176</b> | <b>n=205</b> |
| Already achieved desired number of child             | 89 (51)      | 107 (52)     |
| Fear of mother to child transmission of HIV          | 24 (14)      | 25 (12)      |
| Don't have adequate income                           | 31 (18)      | 29 (14)      |
| Child bearing may further compromise my health       | 16 (9)       | 27 (13)      |
| May not be healthy in future to care for child       | 8 (5)        | 14 (7)       |
| Fear of orphaning/problems in caring                 | 11 (6)       | 15 (7)       |
| Fear of infecting partner while try to conceive      | 12 (7)       | 2 (1)        |
| <b>Preferred sex for those with fertility desire</b> | <b>n=120</b> | <b>n=91</b>  |
| Male   | 20 (17)      | 10 (11)      |
| Female   | 3 (3)        | 7 (8)        |
| No preference(God knows)                             | 97 (81)      | 74 (82)      |
| <b>Desire of a partner to have a child</b>           | <b>n=296</b> | <b>n=296</b> |
| Yes  | 105 (35.5)   | 80 (27.0)    |
| No   | 146 (49.3)   | 143 (48.3)   |
| Don't have a partner                                 | 45 (15.2)    | 73 (24.7)    |
| <b>Contraceptive use</b>                             | <b>n=296</b> | <b>n=296</b> |
| Yes  | 216 (73.0)   | 180 (60.8)   |
| No   | 80(27)       | 117 (39.5)   |
| <b>Contraceptive method</b>                          | <b>n=216</b> | <b>n=180</b> |
| Condom   | 211 (97.7)   | 176 (97.8)   |
| Injectable   | 18 (8.3)     | 14 (7.8)     |
| Pills  | 2 (0.9)      | 3 (1.7)      |
| IUD/ Implants  | 4(1.6)       | 2 (1.2)      |

\* For substitution, children are an important part of marriage, current child needs sibling, original desires for childbearing unchanged.

The qualitative result indicated that, out of 10 respondents, most had children. Discussion of their fertility desire elicited multiple fears: child would be born HIV-positive, risk of re-infection

with a new strain or transmission of HIV to partner while trying to conceive. However, few out of those with children and all of those without children expressed their desire to have child,

justified by not having any child, availability of PMTCT, improvements of health status.

A 24 years old never married man, "I don't have any child. If I have a child, I will be happy and having a child is very important---If I get a child, I consider myself as I am in heaven. --- I have not decided how many children I will have but I have a great desire to have a child."

Seventy three percent of men or their partner and 60.8% of women were using at least one modern contraceptive method of which 211(97.7%) and 176 (97.8%) respectively were using condom (Table 3).

In bivariate model, male (AOR:1.5, 95%CI:1.1-2.2) , family size  $\leq 2$  (AOR:3.7, 95%CI:2.5-5.3), not disclosing to family (AOR:2.0, 95%CI:1.3-

3.2), no living child (AOR:11.0, 95%CI:6.4-18.8), 1-2 living children (AOR:4.2, 95%CI:2.6-6.7), partner's desire (AOR:12.3, 95%CI:8.1-18.5), CD4 count  $\geq 200$ (AOR:1.9, 95%CI:1.2-2.8),  $\leq 2$  years since diagnosed for HIV (AOR:.6, 95%CI:.4-.8),  $\leq 2$  years since started ART(AOR:.7, 95%CI:.5-.9) were significantly associated with fertility desire.

In a multivariate model, male (AOR:1.7, 95%CI:1.1-2.8), 18-29 years (AOR:3.5, 95%CI:1.6-7.4), 30-39 years (AOR:3.0, 95%CI:1.5-6.0), having no living child (AOR:13.1, 95%CI:5.3-32.3), having 1-2 living children (AOR:4.2, 95%CI:2.2-8.0), having partner desiring child (AOR:15.4, 95%CI:9.2-25.8), CD<sub>4</sub> count  $\geq 200$  (AOR:2.0, 95%CI:1.2-3.5) were significantly associated with fertility desire (Table 4).

**Table 4:** Factors associated with fertility desire of people living with HIV/AIDS on ART in Nekemte town, East Wollega, Ethiopia, February 2010.

| Characteristics                 | Desired child (n) | Not Desired child (n) | Crude OR(95 % CI) | Adjusted OR(95% CI) |
|---------------------------------|-------------------|-----------------------|-------------------|---------------------|
| <b>Sex</b>                      |                   |                       |                   |                     |
| Female                          | 91                | 205                   | 1                 | 1                   |
| Male                            | 120               | 176                   | 1.5 (1.1, 2.2)*   | 1.7(1.1, 2.8)*      |
| <b>Age</b>                      |                   |                       |                   |                     |
| 18-29                           | 101               | 105                   | 5.5(3.2, 9.7)*    | 3.5(1.6, 7.4)*      |
| 30-39                           | 91                | 169                   | 3.0(1.7, 5.2)*    | 3.0(1.5, 6.0)*      |
| $\geq 40$                       | 19                | 107                   | 1                 | 1                   |
| <b>Family Size</b>              |                   |                       |                   |                     |
| $\leq 2$                        | 104               | 73                    | 3.7(2.5, 5.3)*    | 1.5(.8 , 3.0)       |
| $> 2$                           | 107               | 308                   | 1                 | 1                   |
| <b>Disclosure To Family</b>     |                   |                       |                   |                     |
| Yes                             | 165               | 335                   | 1                 | 1                   |
| No                              | 46                | 46                    | 2.0(1.3, 3.2)*    | 1.6(.9 , 3.0)       |
| <b>Number of Alive Children</b> |                   |                       |                   |                     |
| no living child                 | 93                | 48                    | 11.0(6.4, 18.8)*  | 13.1(5.3,32.3)*     |
| 1-2 child                       | 96                | 171                   | 4.2(2.6, 6.7)*    | 4.2(2.2, 8.0)*      |
| $> 2$                           | 22                | 162                   | 1                 | 1                   |
| <b>Partner's Desire</b>         |                   |                       |                   |                     |
| Yes                             | 136               | 49                    | 12.3 (8.1,18.5)*  | 15.4(9.2, 25.8)*    |
| No                              | 75                | 332                   | 1                 | 1                   |
| <b>Recent CD4 Count</b>         |                   |                       |                   |                     |
| $<200$                          | 39                | 113                   | 1                 | 1                   |
| $\geq 200$                      | 172               | 268                   | 1.9(1.2, 2.8)*    | 2.0(1.2, 3.5)*      |
| <b>Duration Since Diagnosis</b> |                   |                       |                   |                     |
| $\leq 2$ years                  | 128               | 197                   | 1                 | 1                   |
| $> 2$ years                     | 83                | 184                   | .6(.4 , .8)*      | 1.3(.6 , 3.0)       |
| <b>Duration on ART</b>          |                   |                       |                   |                     |
| $\leq 2$ years                  | 149               | 220                   | 1                 | 1                   |
| $> 2$ years                     | 62                | 161                   | .7(.5 , .9)*      | .6(.2, 1.4)         |

## DISCUSSION

These findings showed nearly one third of women and men living with HIV in Nekemte town desired to have children (30.7% and 40.5% respectively). The study was consistent with cross sectional study from South Africa (50% of men and 45% of women) (Cooper *et al.*, 2005).

In Uganda, 16% of HIV-infected men and women desired more children. Men were almost four times more likely to want children than women (27% vs. 7%) (Nakayiwa *et al.*, 2006). The desire among women was consistent with cross sectional study from South Africa (29%) (Myer *et al.*, 2007). A similar pattern of fertility desire was observed in the 2005 Ethiopian Demographic and health surveys except that a relatively higher proportion among both males and females (65.1% and 58.1 % respectively) (EDHS, 2005). Men's greater desire may be due to a desire to leave something of themselves, their 'name' and lineage behind when they die. Thus it is important that it helps policy makers and health care providers to involve men more in prevention of pregnancy for those not desiring a child and education of the efficacy of prevention of transmission from mother to child.

Seventy eight percent among men and 61.8% among women were sexually active in the 6 months prior to survey. It was found consistent with Brazil study, sexual encounter per month had increased from 60% initially to 78% in two years on ART (USAID, 2007). Many PLHIV continue to be sexually active and some had strong desire children (Cooper *et al.*, 2009; Myer *et al.*, 2007) which entails unprotected sexual intercourse.

In the current study, 23% of respondent's partners were found HIV negative. If the woman is infected and the man is not, artificial insemination would avoid the risk of transmitting HIV to him. When a man has HIV and his partner does not, the only way to avoid the risk of transmitting HIV is artificial insemination using semen from a donor who does not have HIV (USAID, 2007). But in resource poor setting like ours, those interventions are difficult.

This finding also indicated that among 12% of men, their partner became pregnant since they knew their serostatus (69.4% was intentional). Also 12% of women became pregnant (55.6% intentional). It was consistent with the report from South Africa (9%); of those 70% of pregnancies were reportedly intentional (Cooper *et al.*, 2009) while slightly lower than study found from Uganda

among women on ART (16.9%) (Homsy, *et al.*, 2009). Prevention of unwanted pregnancies avoids many births of HIV-infected infants (Cooper *et al.*, 2009; Reynolds *et al.*, 2005; USAID, 2007). Interventions to address these gaps are needed both in the broader RH services and within HIV care settings targeting men too.

Seventy three percent of men and 60.8% of women were using at least one modern contraceptive method. It is estimated that one-fourth of all births in sub-Saharan Africa are unintended. Meeting the family planning needs of all women with HIV in sub-Saharan Africa has the potential to avert 120,000 HIV-positive births each year (Reynolds *et al.*, 2005).

Combined interventions such as ARV medications, cesarean section delivery, and avoidance of breastfeeding have been able to reduce the risk of mother-to-child transmission of HIV in developed countries to below 2 % (USAID, 2007). However, in developing countries with low income only few people access to the necessary services due to economic constraint. Thus helping those who do not want to have a child preventing unintended pregnancies is a cost effective.

Younger age has consistently been associated with fertility desire in studies of HIV-positive people in South Africa and Ethiopia (Cooper *et al.*, 2009; NNPWE, 2007; Tamene and Fantahun, 2007; WHO, 2006). Many people who are diagnosed with HIV during their reproductive years inevitably face tough decisions about their reproductive future. Addressing the SRH needs of all young people, including those with HIV (USAID, 2007) has public health importance as many new HIV infections in Ethiopia are occurring in younger women and men.

In current study among both men and women fertility desire is associated with partners desire to have a child. It was consistent with South Africa and Addis Ababa studies (Cooper *et al.*, 2005, Tamene and Fantahun, 2007). This indicates contraceptive and PMTCT information have to involve their partner as well.

Patients with CD<sub>4</sub> count ( $\geq 200$  cells/mm<sup>3</sup>) desired to have child. Having CD<sub>4</sub> cell count  $> 500$  was associated fertility desire in Uganda (Homsy *et al.*, 2009). It may be due to the improvement of health status increases the commitment of these people to achieve their reproductive desires.

The strengths of this study is it provides insights on the fertility desire and associated

health care needs of men living with HIV that SRH services must target men too. Concerning its limitations, self-reported data are difficult to validate, and may be influenced by socially desirable responses; however, an effort has been exerted to minimize this by training interviewers.

## CONCLUSION

Study reveals that 40.5% of men and 30.7% women desired a child. Being male, younger age, not having alive child, having 1-2 living children, having a partner desiring a child, CD<sub>4</sub> count  $\geq 200/\text{mm}^3$  were the predictors of fertility desire. Health services organizations should consider the desire for children by men and women living with HIV/AIDS in order to avert preventable untoward health and related consequences.

PLHIV who do not want to have a child require effective contraception. Those who desire child and engaged in pregnancy risk behaviour need education on the efficacy of PMTCT. Those who desire child and not engaged in pregnancy risk behaviour need on-going counseling. HIV care and treatment could provide an important opportunity to provide information and counseling to men that would encourage their involvement more in reproductive health services.

Advice is needed from health care workers on how to balance safer sex practices and the desire to reproduce and effective contraceptive method for those not desiring a child; condom plus other contraceptive.

## ACKNOWLEDGMENTS

We acknowledge the EPHA/CDC for funding this research project. It gives us a great honor to thank all study participants for their cooperation in providing the necessary information.

## REFERENCES

ARC (2002 E.C). Monthly HIV Care and ART Update, Update as of end of Yekatiti. Accessed February, 2010, from [www.etharc.org](http://www.etharc.org)  
<<http://www.etharc.org>>.

Askew, I. and Berer, M. (2003). The Contribution of Sexual and Reproductive Health Services to the Fight against HIV/AIDS: A Review. *Reproductive Health Matters* 11(22):51-73.

Cooper, D., Bracken, H., Myer, L., Zweigenthal, V., Harries, J., Orner, P., Manjezi, N. & Ngubane, P. (2005). Policy brief; Reproductive intentions and choices among HIV-infected individuals in Cape Town, South Africa: Lessons for reproductive policy and service provision from a qualitative study. Cape Town, University of Cape Town.

Cooper, D., Moodley, J., Zweigenthal, V., Bekker, L.-G., Shah, I. & Myer, L. (2009). Fertility Intentions and Reproductive Health Care Needs of People Living with HIV in Cape Town, South Africa: Implications for Integrating Reproductive Health and HIV Care Services. *AIDS Behaviour* 3(supplement): 38-46.

DEBEKO, K. (2007) . Sexual and reproductive health needs and preferences of people living with HIV/AIDS in Southern Nations Nationalities and Peoples Region, MPH thesis, Addis Ababa University, Addis Ababa.

EDHS (September 2006). Ethiopia demographic and health Survey 2005. Addis Ababa, Ethiopia.

Homsy, J., Bunnell, R., Moore, D., King, R., Malamba, S., Nakityo, R., Glidden, D., Tappero, J. & Mermin, J. (2009). Reproductive Intentions and Outcomes among Women on Antiretroviral Therapy in Rural Uganda: A Prospective Cohort Study. *PLoS ONE*, 4.

MOH (July 2007). Guidelines for Prevention of Mother-to-Child Transmission of HIV in Ethiopia, Federal HIV/AIDS Prevention and Control Office. Addis Ababa, MOH.

Myer, L., Morroni, C. & Rebe, K. (2007). Prevalence and Determinants of Fertility Intentions of HIV-Infected Women and Men Receiving Antiretroviral Therapy in South Africa. *AIDS PATIENT CARE AND STDs* 21(4): 278-285.

Nakayiwa, S., Abang, B., Packer, L., Lifshay, J., Purcell, D. W., 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 Behaviour* 10(supplement): 95-104.

NNPWE (July 2007). National Network of Positive Women Ethiopians (NNPWE). Addis Ababa, NNPWE.

Reynolds, H. W., Steiner, M. J. & Cates, W. (2005). Contraception's proved potential to fight HIV. *Sex Transmission Infection* 81(5): 180-188.

Tamene, W. & Fantahun, M. (2007). Fertility desire and family planning demand among HIV positive women and men undergoing treatment in Addis Abba, Ethiopia. *African Journal of AIDS research* 6 (3):223-227.

UNAIDS (2010). UNAIDS Report On The Global Aids Epidemic. Geneva, UNAIDS.

USAID (2007). Family Planning Choices for Women with HIV, Population report, John Hopkins Bloomberg school of Public Health.

WHO (2006). Sexual and reproductive health of women living with HIV/AIDS. *Guidelines on care, treatment and support for women living with HIV/AIDS and their children in resource-constrained settings*. Geneva 27, Switzerland, WHO.