

Utilization of Family Planning Methods and Associated Factors among Women Living with HIV Attending ART Clinics in Nekemte Public Health Facilities, East Wollega Zone, Ethiopia

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Abstract

This study was designed to assess the utilization of Family planning methods and associated factors among HIV-infected women in ART clinics of public health institutions Nekemte town, East Wollega zone, Ethiopia. Facility based cross sectional study design using quantitative technique of data collection method undertaken from May 1st to May 26th, 2012, on a sample of 456 women living with HIV who are on follow up care in ART clinics. Univariate analysis was done to determine frequencies of FP methods used. Factors associated with use of family planning methods were examined using logistic regression methods at $p < 0.05$. There was a high level of knowledge about family planning with more than 98% of women knowledgeable of at least one method used to prevent conception. Out of 456 respondents 303(66.4%) were using different methods of family planning during the study period and condom is the dominant method used by the client (41.6%). High proportion (42.1%) of women living with HIV/AIDS expressed a desire for having more children in the future. Logistic regression result showed that educational attainment (AOR=3.199, 95% CI (1.487-6.541), marital status (AOR= 95% CI, 6.252 (4.008-9.752), and having open discussion with ones partner about family planning (AOR=95% CI, 13.846 (5.062-37.875) were statistically associated with current family planning use at $p < 0.05$. Generally current use of modern contraceptive other than condoms was very low in the study area. These findings highlight the need for integration of family planning and HIV care and treatment and strengthening of family planning services for HIV infected people.

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INTRODUCTION

According to WHO report it was estimated that 1.49 million pregnant women in low and middle income countries were living with the human immunodeficiency virus (HIV). More than 90% of HIV infections in infants and childrens were passed through mothers during pregnancy, labour, delivery or breastfeeding (WHO, UNAIDS and UNICEF, 2011). Access to antiretroviral therapy in developing countries has improved the life expectancies and health of many PLWH who are resuming sexual activity and often need contraception (WHO, 2007).

Preventing unintended pregnancy among HIV-positive women is an effective approach to reducing pediatric HIV infection and vital to meeting HIV-positive women's sexual and reproductive health needs. Providing contraception to women with HIV who wish to postpone or avoid pregnancy can prevent vertical transmission of HIV from mother to child. Indeed, the prevention of unintended pregnancies among women living with HIV is one of four elements of a comprehensive approach to prevent

mother-to-child transmission of HIV (PMTCT) (Ringheim, 2009).

Family Planning (FP) services integrated to preventing primary HIV infection in women have been reported to significantly reduce the proportion of infants infected with HIV by 35%-45% (WHO, 2011). Using contraception for unwanted and unintended births could avert an additional 397 newborn infections as reported in Vietnam and an additional 46,774 in South Africa each year (Reynolds *et al.* 2008). An estimated 137 million women who want to avoid a pregnancy and they are not using a family planning method in the developing world (USAID, 2009).

In addition to the cost savings incurred by addressing unmet need, greater use of FP services can contribute directly to the MDG goals to reduce child mortality and improve maternal health; family planning helps reduce the number of high-risk pregnancies that result in high levels of maternal and child illness and death (MOFED, 2010). In Ethiopia, mother to child transmission rate is estimated at

30% in 2011. In 2011, approximately 42,900 pregnant women with HIV delivered (UN, 2012). Previous studies in Ethiopia were concentrated on examining factors that influence contraceptive utilization among the general population (Tilahun *et al.*, 2013). Hence, the present study identified the family planning utilization and associated factors among women living with HIV.

MATERIAL AND METHODS

Study Design and Population

This study was an institutional based cross sectional study using quantitative data collection method. The study population included a sample of women aged 15-49 years living with HIV who visited Nekemte Hospital and Health Center during data collection period. Women in a reproductive age group (15-49) and living with HIV, were considered for the study, while those who are critically ill (physically and mentally) to provide informed consent and women who were pregnant during data collection (identified by history and LMP) were excluded from the study.

The sample size was determined by assuming that 50% of HIV+ individuals may use family planning methods with 5% marginal error and 95% CI and a none response rate of 20%. Based on this assumption, the actual sample size for the study was determined using the formula for single population proportion and a sample size of 461 was calculated. The calculated sample size was proportionally allocated to the two ART centers found in Nekemte town namely; Nekemte hospital and Nekemte health center based on the total number of client on follow up care in the respective ART centers. Then to select study subjects from each ART unit, systematic sampling was used by referring client's registration book for a day prior to data collection. It is from these numbers that every 3 persons as they registered included in the sample at each ART unit until the required number of sample size was reached.

A structured questionnaire adopted from different literatures were first prepared in english translated in to Afan Oromo and then back translated to english to check for consistency was used to collect information from respondents. The questionnaire was pre- tested in Gimbi Hospital ART unit on 5% of the total sample size. The questionnaire then assessed for its clarity, length and completeness and some skip patterns were corrected and questions difficult to ask were rephrased.

Data Analysis

The data checked, cleared and entered into SPSS version 16.0 for analysis. The descriptive analysis such as proportions, percentages, frequency distribution and measures of central tendency was used. Initially, bivariable analysis was performed between FP use (dependent variable) and each of the potential factors associated with FP use (independent variables), one at a time. Their odds ratios (OR) at 95% confidence intervals (CI) and *p*-values was obtained. The findings at this stage helped us to identify important associations. Then multivariable analysis was performed using the logistic regression model using variables that were significant at *p*<0.05 on bivariate analysis. Factors that were significantly associated with FP use at bivariable analysis were considered in the logistic regression model.

Ethical Consideration

Ethical clearance and permission was obtained from Jimma University Ethical Review Committee and permission was secured from Nekemte Hospital and Health centers. Informed consent obtained from each respondent before interview. Confidentiality of individual client information was ensured by use of unique identifiers for study participants and limiting access to the principal investigator and research assistants of study information by storing the completed questionnaires and all documents with participant information in a lockable cabinet.

RESULT

Socio-demographic Characteristics

Four hundred sixty one eligible PLWHI selected for the study, 456 agreed to participate giving response rate of 98.9%.The mean age (±SD) of the participants was 30.5±7 years, age range was 18-48. Most study respondents were married 279(61.2%). Three hundred fifty four (77.6%) were Oromo and 201 (44.1%) were followers of protestants Christianity. More than half of respondents 267(58.6%) had primary education. One hundred seventy four (38.2%) were housewives. Nearly 75% of the participants were earning monthly income of less than or equal to 500 ETB (Table 1).

Table 1: Socio demographic characteristics of study participant attending ARV treatment units, Nekemte, Ethiopia, May 2012.

Characteristics (n=456)	Number (%)
Age	
5-24	90 (19.7)
25-34	231 (50.7)
35-44	114(25.0)
44+	21 (4.6)
Marital status	
Married	279 (61.2)
Single	72(15.8)
Divorced	54 (11.8)
Widowed	51(11.2)
Ethnicity	
Oromo	354(77.6)
Amahara	75 (16.4)
Gurage	18 (3.6)
Tigre	9 (2.0)
Religion	
Orthodox	165 (36.2)
Catholic	36 (7.9)
Muslim	54 (11.5)
Protestant	201 (44.1)
Educational status	
Illiterate	45(9.9)
Primary	267(58.6)
Secondary	117(25.7)
Post-secondary	27(5.9)
Occupational status	
Unemployment	54 (11.8)
House wife	174(38.2)
Daily laborers	34(7.5)
Government employee	87(19.1)
Merchant	96(21.0)
Other	11(2.4)
Estimated monthly household income (in Eth. Birr)	
≤ 500	348(76.3)
>500	108(23.7)

HIV/AIDS Diagnosis, Treatment, Care and Support

One hundred eight (23.7%) of the respondent had duration of less than or equal to two years since HIV diagnosis. Almost all the study subjects were starting to receive ART drug and the mean duration since HIV diagnosis and receiving ART were 4.6 and 3.3 year, respectively. Of the 279 study participants who were married, 276 (98.9%) had disclosed their HIV sero-status to their spouse, and the partners of 267 (95.7%) had had an HIV test. Of those with partners who had tested, partners 210 (78.7%), were HIV positive. Four hundred thirty eight (96.1%) of the study subjects reported improvement in health status after ART treatment was started. Two hundred sixty seven (58.6%) of the respondents said that they have discussed on personal issues such as sexuality, family planning and child bearing with ART providers (Table 2).

Table 2: HIV related characteristics of study participant attending ARV treatment units Nekemte, Ethiopia, May 2012.

Characteristics	Number (%)
Duration of HIV diagnosis (in year) (n=456)	
Less than or equal to 2	108(23.7)
Greater than to 2	348(76.3)
Duration since receiving ART (in year)(n=456)	
Less than or equal to 2	192(42.1)
Greater than to 2	264(57.9)
Disclosure of HIV status to partner (n=279)	
Yes	276(98.9)
No	3(1.1)
Partner tested for HIV (n=279)	
Yes	267(95.7)
No	12(4.3)
Partner HIV status (n=267)	
Positive	210(78.7)
Negative	57(21.3)
Over all health condition after ART (n=456)	
Improved	438(96.1)
No change	12(2.6)
Deteriorated	6(1.3)
Secured social support from different group (n=456)	
Yes	261(57.2)
No	195(42.8)
Source of support (n=261)	
Nongovernmental organization	138(52.9)
Relative/friend/neighbors	99(37.9)
Governmental organization	24(9.2)
Kind of support (n=261)	
Food and health care	111(42.5)
Money	105(40.2)
Home based care	45(17.2)
Counselor/ART provider discuss about RH issue (n=456)	
Yes	267(58.6)
No	189(41.4)

Contraceptive Use and Future Need

More than 98% of women were knowledgeable of at least one method used to prevent conception. Majority of women living with HIV 282 (61.8%) had ever used at least one method of contraception before their HIV diagnosis. injectable 129 (45.7%) were the most commonly used contraceptive method before HIV diagnosis.

At the time of the study, out of 456 respondents 303(66.4%) were using different methods of family planning; of these, (41.6%) used condoms. Overall, 102

(33.7%) of the respondents reported using dual methods (condoms and other FP methods) during the study period. The most common reason for current method choice was health professional's advice (62.4 %).

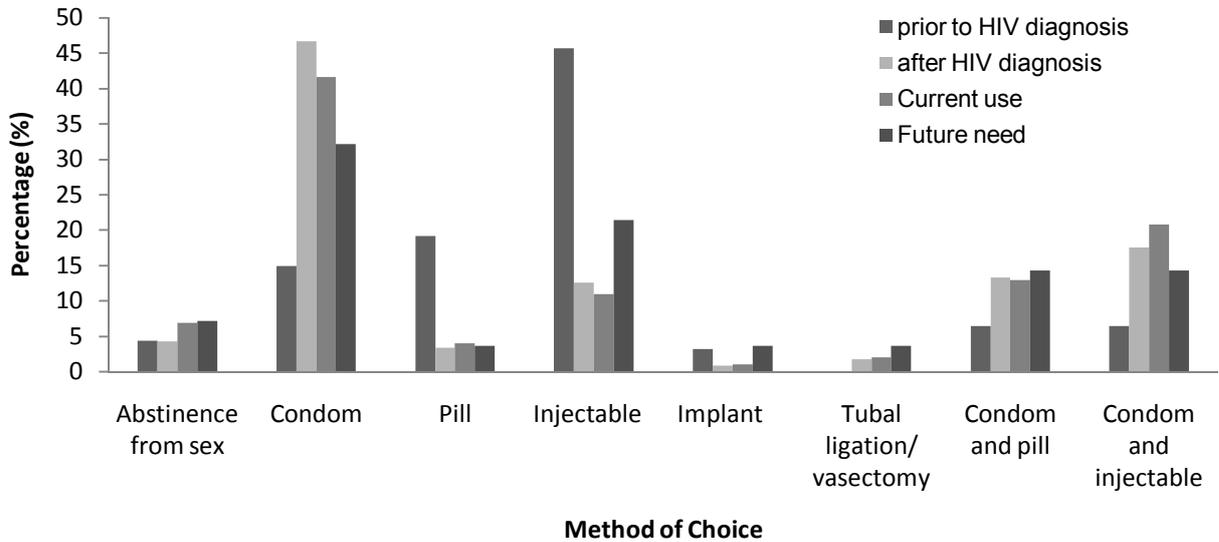
Out of 153 respondents who were not using a family planning methods during the study period, 84(54.9%) wanted to use family planning in the future. In terms of preferred FP methods for future use, the majority 27(32.1%) still preferred condom. Dual method of contraceptive was intended to be used by about 28.6% of women who planned to use family planning in the future. Of the 69 respondents who gave reasons as to why no contraceptive need in the future was abstinence from sex (69.6%) followed by went to have child in the future (26.1). Out of the study subjects who were using contraceptive during the study period, (21.8%) did not disclose their HIV status to family planning providers. The most common reason for non-disclosure was fear of stigma and discriminations (59.1%). From the 279 respondents with formal relation 255(91.4) were openly discuss about family planning with partner (Table 3).

Table 3: Family planning use and need of study participant attending ARV treatment units Nekemte, Ethiopia, May 2012.

Variable	Number (%)
Knowledge of at least one contraceptive method (n=456)	
Yes	447(98)
No	9(2)
Contraceptive ever used prior to diagnosis (456)	
Yes	282(61.8)
NO	174(38.2)
Contraceptive ever used after diagnosis (n=456)	
Yes	360(78.9)
NO	96(21.1)
Current contraceptive use (n=456)	
Yes	303(66.4)
NO	153(33.6)
Reason for current contraceptive choose (n=303)	
Health professionals advise	189(62.4)
Perceived safety	84(27.7)
From friend experience/advise	27(8.9)
Other	3(1)
Future contraceptive need (n=153)	
Yes	84(54.9)
NO	69(45.1)
Reason for non use of FP in the future (69)	
Want to have a child	18(26.1)
Fear of drug interaction with ART drug	3(4.3)
Abstinence from sex	48(69.6)
Disclosure HIV status to contraceptive service (303) Provider	
Yes	237(78.2)
No	66(21.8)
Reason for non disclosure (66)	
Fear of stigma and discrimination	39(59.1)
Lack of trust on service provider	15(22.7)
Other	9(13.6)
No response	3 (4.5)
Openly share FP use with your sexual partner (279)	
Yes	255(91.4)
No	24(8.6)

The study findings showed that the dominant method of contraceptive used prior to HIV diagnosis was injectable 129(45.7%). Condom was the commonly used methods

during the study period and intended to be used for the future 126(41.6%), 27(32.1%), respectively (Figure 1).



Method of Choice

Figure 1: Distribution of study participant attending ARV treatment units by methods of contraceptive ever use prior to diagnosis, current use and future need Nekemte, Ethiopia, May 2012.

The commonly preferred site for family planning service delivery was antiretroviral treatment units (77.7%) (Figure 2).

Table 4: Sexual behavior and condom use of study participant attending ARV treatment units Nekemte, Ethiopia, May 2012.

ARV treatment unit Family planning unit
In private clinic In counseling unit

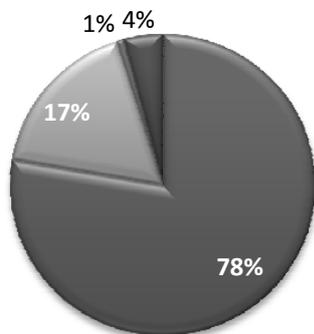


Figure 2: Preferred place for contraceptive service among Study participant attending ARV treatment units Nekemte, Ethiopia, May 2012.

Sexual behavior and condom use

Majority of about 318(69.7%) of the study participant were sexually active during the past six months, from which 219(68.9%) were used condom during sexual practice. Out of those who reported condom use 192(87.7%) and they used it regularly, while 27(12.3%) reported irregular use. The most common reason for condom use was advice from health professionals 96 (43.8%) whereas the common reason for nonuse of condom during sexual practice was need for more children 35(35.4%) (Table 4).

Characteristics	Number (%)
Sexually active in the past 6 month (n=456)	
Yes	318(69.7)
NO	138(30.3)
Used condom (n=318)	
Yes	219(68.9)
No	99(31.1)
How often used condom (219)	
Always	192(87.7)
Sometimes	27(12.3)
Reason for condom use (n=219)	
To prevent pregnancy	93(42.5)
Partners HIV status is negative	18(8.2)
Health care provider advice	96(43.8)
Other	12(5.5)
Reason for non use of condom (n=99)	
Partner dislike to use condom	31(31.3)
Want to have children	35(35.4)
Other	18(18.2)
No response	15(15.2)

Fertility Desire

While 108(23.7%) of the study subjects had three and more live births, 75(16.4%) of the study subjects had three and more children who are currently alive. One hundred ninety two (42.1%) of the respondents expressed

the future desire for children. Out of those desired to have children 185 (96.4%) desired to have less than two and equal to two children. One hundred sixty two (84.4%) of the study subjects who desire to have children planned to have a child within two years period. Out of the 264 respondents who are not desired to have children in the future the major reason given were have desired number of children 111(42%). Out of 279 respondents with partner 162(58.1%) of their spouse expressed desire to have children in the future. Majority of the respondents 210(46.1) pointed out that ART/PMTCT increased their fertility desire (Table 5).

Table 5: Distribution of study participant attending ART service by fertility desire at ARV treatment units Nekemte, Ethiopia, May 2012.

Characteristics	Number (%)
Number of live birth (n=456)	
0	138(30.3)
1-2	210(46.1)
>=3	108(23.7)
Number of current live birth (n=456)	
0	150(32.9)
1-2	231(50.7)
>=3	75(16.4)
Plan to have child in the future (n=456)	
Yes	192(42.1)
No	264(57.9)
When do you prefer to have children? (n=192)	
1-2year	162(84.4)
>2year	30(15.6)
Number of children you plan to have (192)	
1 - 2	185(96.4)
>2	7(3.6)
Reason not to have children in the future (264)	
Have desired number of children	111(42)
Fear of MTCT	81(30.7)
Lack of adequate income	54(20.5)
Other	18(6.8)
Partner desires to have children (n=279)	
Yes	162(58.1)
NO	117(41.9)
Contribution of ART/PMTCT on fertility desire (456)	
Yes	210(46.1)
No	246(53.9)

Factors Associated with Current Use of Family Planning

In a multivariate analysis educational status of woman living with HIV displayed significant positive relationships with a woman's odds of utilizing a family planning service ($p < 0.05$). Relative to women with no education, women with some form of education had significantly greater odds of utilizing a family planning service (AOR=3.199, 95%, CI 1.487-6.541).

On further multivariate analysis age of respondent, knowledge on family planning didn't show significant association with current utilization of family planning. The finding of the study identified that discussion of reproductive health issues with partner including family planning have strong statistical association with current family planning practice ($p < 0.001$). In multivariate analysis those women who were discussed about family planning issues with spouse were significantly greater odds of utilizing family planning compared to non-discussant (AOR=13.846, 95%, CI, 5.062-37.875) (Table 6).

DISCUSSION

Family planning use is important for HIV positive individuals like any HIV negative people to space and limit birth and to prevent unintended pregnancy irrespective of

their fertility desire. Furthermore, avoiding unintended pregnancy among HIV positive women is one way of vertical HIV transmission reduction and prevention strategies as outlined by WHO (2002).

In this study knowledge of at least one method of contraception is nearly universal among the studied subjects (98.8%). This figure is similar to the finding reported by EDHS, 2011 in Ethiopia, which was 97% (CSA, 2011).

Over half (66.4%) of the sexually active women who seek care and support from Nekemte Hospital and Health Center ART clinic were currently using some form of family planning method. The findings show that current use of family planning methods among HIV-infected individuals in Nekemte ART unit was higher than that of reported in the general population in Ethiopia and Oromia region (9% and 26 %) respectively (CSA, 2011). One possible reason for this difference could be the difference in reference populations. The national prevalence was based on data from the general population of married women not necessarily receiving routine FP counseling while the prevalence from this study was based on a cohort of PLWHIV receiving routine FP counseling and provided with free condoms. Another possible reason for the high CPR of family planning among this population was due to high condom use rates since condoms are important for dual protection. This figure is lower than that reported from USA in which (90%) and much higher than a study result reported from Lesotho Demographic and Health Survey (34%) (Stanwood *et al.*, 2007; Adair, 2009).

Majority (62.4%) of the study participant pointed out that, the health care provider's advice was the main reason for current family planning choice and use. From those who was not using family planning during the study period majority plan to use family planning in the future. The result of the study is much higher than finding from north Nigeria where only 17% of currently non users of family planning have intention to use family planning in the future (Zubairu *et al.*, 2009). The reason for existing discrepancy might be improved family planning counseling in the study setting. The most preferred family planning service delivery site is ARV treatment unit 282(77.7%) which has programmatic implication that the clients need to get the family planning services along with their HIV care and treatment unit.

In this study, 78.2% of the study participants had discussed family planning with health workers. It was higher than the proportion of PLWHIV that were discussed family planning with health care provider in Ethiopia and Uganda (59%) (Menberu *et al.*, 2010; Barbara *et al.*, 2011). FP counseling is quite important in correction of myths and misconceptions related to FP use, creating awareness of the various FP options for PLWHIV to make their preferred choices of FP methods, and in addressing other FP related barriers. A much higher proportion of respondents 91.4% were openly discussed about family planning and fertility related factors with their spouse, whereas the finding from Uganda showed that only 62.6% of the respondents discussed about the issue with their spouse (Barbara *et al.*, 2011).

Table 6: Logistic regression showing the association of current use of family planning by selected characteristics among study participant attending ART treatment units Nekemte, Ethiopia, May 2012.

Variables	Current FP utilization		COR	95% CI	
	Yes	No		AOR	
Age category					
15-24	69(76.7)	21(23.3)	1		
25-34	150(64.9)	81(35.1)	0.564(0.323-0.985) *		
35-44	72(63.2)	42(36.8)	0.522(0.281- 0.969) *		
44+	12(57.1)	9(42.9)	0.406(0.150-1.095)		
Educational status					
Illiterate	21(46.7)	4(53.3)	1	1	
Literate	282(68.6)	129(31.4)	2.498(1.342-4.652)	3.199	(1.487-6.541) *
Knowledge about FP					
Yes	300(67.1)	147(32.9)	4.082(1.007-16.550) *		
NO	3(33.3)	6(66.7)	1		
Marital status					
Married	25(80.6)	54(19.4)	5.288(3.475-8.048) **	6.252	(4.008-9.752) **
Single/divorced/widowed	78(44.1)	99(55.9)	1	1	
Income					
≤ 500	225(64.7)	30(27.8)	1		
>500	78(72.2)	123(35.3)	1.421(0.884-2.285)		
Fertility desire					
Yes	132(68.8)	60(31.2)	1.196(0.805-1.778)		
No	171(64.8)	93(35.2)	1		
Number of alive children					
0	93(62)	57(38)	1		
1-2	162(70.1)	69(29.9)	1.439 (0.933 -2.220)		
>=3	48(64)	27(36)	1.090(0.613-1.937)		
Openly share FP use with Partner					
Yes	216(84.7)	39(15.3)	9.231(3.776-22.568) **	13.846	(5.062-37.875) **
NO	9(37.5)	15(62.5)	1	1	
Partner sero-status					
Positive	168(80)	42(20)	1		
Negative	45(78.9)	12(21.1)	0.938(0.456-1.928)		

*Statistically significant ($p < 0.05$); **strong statistical association ($p < 0.001$)
COR=Crude Odds Ratio; AOR= Adjusted odds ratio

Three hundred three (66.4%) respondents reported that they were currently using a family planning method, as compared to 61.8% before HIV diagnosis. The most commonly used family planning method before HIV diagnosis was injectable compared to condoms after diagnosis. The finding agrees with study result done on correlates of fertility intentions among HIV/AIDS patients in Northern Nigeria which shows that after HIV diagnosis clients were using different methods of family planning of these, 65(19.4%) used condoms, while 8(2.4%) used oral contraceptive pills and only 2(0.6%) practiced abstinence (Zubairu *et al.*, 2009). The high proportion of condom use as a contraceptive prevalence may be related to the promotion of condoms among PLWHIV and the public as a dual method to protect from unwanted pregnancy and STI/HIV transmission.

This study found that a high proportion (42.1%) of women living with HIV/AIDS and 58.1% of their partner expressed a desire for having more children. This figure is lower than that reported from Ethiopian EDHS 2011(57%) and northeast Nigeria showed that One hundred and sixty seven females (65.5%) and 52(61.2%) males expressed the desire to have more children (CSA, 2011 and Zubairu, *et al.*, 2009). However, it was higher than the proportion of PLWHI that were desirous of reproduction in Kenya (18%) and rural Uganda (7%) (Horizons, 2005 and Rhoda, 2011) and Ethiopia (30.7%) (Tesfaye Regassa and Mesganaw

Fantahun, 2012). The finding showed that being HIV positive modified but did not remove reproductive desires, and diversity existed in reproductive intentions.

From those desired to have children in the future large proportion 96.4% of the participant desire to have one to two children and about 15.6% want to wait for more than two year. The result is much higher than that reported from Northern Nigeria, here more than half of them want to have less than or equal to two children (Zubairu, 2009).

In multivariate analysis, educational level and marital status were identified as important predictors of current family planning use among the study participants. Similar study conducted in Uganda on assessment of contraception among persons living with HIV attending HIV care and support center shows that, the education level and marital status were significantly associated with contraceptive use (Othman *et al.*, 2010). Finding from EDHS (2011) also confirmed that current contraceptive use increases with women's educational attainment (CSA, 2011). It is thought that increased educational attainment operates through a multiple mechanisms in order to influence service use, including increasing female decision-making power on reproductive health particularly family planning.

Discussion on family planning with approval of one's spouse and FP use were statistically significant at multivariate analysis and where the odds of family planning utilization were higher among women who have open discussion about family planning with partner than their counterparts ($p < 0.001$). These findings were comparable with the study among women regardless of HIV status by Rob *et al.* (2007), showed partner approval was more likely to be associated with use of modern contraceptive in six countries that included Kenya, Malawi, Tanzania, Ivory Coast, Burkina Faso and Ghana (Rob *et al.*, 2007). Men often play decisive roles in either supporting or hindering the use of contraceptives by their spouses or partners thus communication with partner is vital to remove challenges such as partner opposition in making fertility related decisions. Men should also be part of a programmatic response to prevent unintended pregnancies among women with HIV.

CONCLUSIONS

In conclusion, the majority of PLWHIV seeking care and treatment from Nekemte public ART centers reported current use of some method of family planning. Condoms were the most frequently reported family planning method. Current use of modern contraceptive other than condoms was very low in the study area. Large portions of the HIV-positive women in the study were, desired to have children. Educational attainment, marital status and partner communication about the issue of family planning was significant predictors of family planning use among study participants.

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