

Contraceptive use and associated factors among sexually active HIV positive women attending ART clinic in FHRH in Bahir Dar, north west, Ethiopia, 2018. Facility based cross-sectional study.

tilksew ayalew (✉ jonnyayu@gmail.com)

Bahir Dar University

Tilahun Tewabe

Bahir Dar University

Abdulkakim Abdanur

Bahir Dar University

Demoze Jenbere

Bahir Dar University

Mastewal Ayehu

Bahir Dar University

Girma Talema

Bahir Dar University

Research

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Abstract

Abstract Back ground: Contraception helps prevent unplanned pregnancies and mother to child HIV transmission among human immune virus positive women. Contraceptive use status and associated factors were not well addressed in the study area. This study aimed to assess contraceptives use and associated factors among HIV positive sexually active women at anti-retroviral therapy clinic in Felege Hiwot Referral Hospital, Northwest Ethiopia. **Method** : A facility based quantitative cross-sectional study was conducted from June 01 -30, 2018, among 308 randomly selected sexually active HIV positive women of reproductive age in Felege Hiwot Referral Hospital anti-retro viral treatment clinic. A pre-tested interviewer-administered questionnaire was used to collect data. Data were analyzed using SPSS version 20. Descriptive statistics were used to summarize socio-demographic characteristics of participants. A multivariate logistic regression analysis method was employed and odds ratio with 95% confidence interval was used to control possible confounders. Statistical significance was declared at p-value <0.05. **Results**: The current study revealed that overall contraception use among sexually active HIV positive women was 38.3 % (95%CI: 32.5%-43.5%). Women with age range of 15-34 years old (AOR =3.089, 95%CI: 1.591-5.999), HIV status disclosure to sex partner, (AOR=2.75995%CI: 1.142-6.663), previous contraception utilization experience; (AOR=3.361, 95%CI: 1.677-6.736), Sexual activity in the last six months (AOR 5.451, 95%CI: 2.724-10.908) and had drinking habit (AOR=4.351, 95%CI: 1.824-10.379) were the main predictors of contraceptive use. **Conclusion**: Contraceptive use was low in the current study area. Efforts should be strengthened to increase contraception use among human immune virus positive women. Anti-retro viral treatment and family planning services should be integrated to increase contraceptive use uptake in the study area. **Keywords**: Contraceptive use, Contraception, Human immune virus positive women, Bahir Dar, North west Ethiopia.

Introduction

Although global community is working to end HIV/AIDS epidemic by 2030, it remains a major global epidemic in post millennium development era. It remains the leading cause of morbidity and mortality throughout the world. Since the start of the epidemic, around 76.1 million peoples infected and 35 million people died from AIDS (Acquired Immunodeficiency Syndrome) related illness[1]. Globally in 2017, there were 36.9 million people living with HIV; 18.2 million women of reproductive age group and 1.8 million were children under 15 years old. There were also a total of 1.8 million new infection and 940,000 AIDS related death in the same year. [2].

Eastern and southern Africa including Ethiopia remains the region most affected by the HIV epidemic, accounting for 45% of the world's HIV infection and 53% of people living HIV globally. Adolescent girls and young women continue to face disproportionately high risk of HIV in the region[2]. Sub-Saharan Africa (SSA) contributed 76% of total of HIV-infected people, 76% of a total of new HIV infection and 75% of a total of HIV/AIDS related deaths in 2015[3].

As one of the sub-Saharan country, the scenario in Ethiopia is similar. In Ethiopia, the HIV epidemic has remained a major public health problem, largely affecting women of reproductive age group[4]. At the end of 2017, there were an estimated total 722,248 people infected with HIV, 22,827 new HIV infection and 14,872 annual AIDS related deaths. In the same year, an estimated HIV prevalence in the general population was at 1.5 percent[5].

The epidemic is well established in the urban areas of the country .According to Ethiopian population-based HIV impact assessment (EPHIA2017-2018), the annual incidence of HIV among adult age groups (15–64) years in urban Ethiopia is 0.06%. Prevalence of HIV among adult age 15–64 years in urban Ethiopia is 3.0%; 4.1% among women and 1.9% among men. Prevalence of HIV among children ages 0–14 years in urban Ethiopia is 0.3%, the same among both sexes. Viral load suppression among HIV-positive adults ages 15–64 years in urban Ethiopia is 70.1%: 71.7% among women and 66.8% among men[6].

Voluntary family planning a key intervention for health and development by enabling women and couples to decide number, timing and spacing of births. Sexually active women can do this by using different contraceptive methods. Reducing maternal mortality, child mortality, abortion and transmission of HIV from mother to child are some of the health benefits of family [7, 8]. Universal access for family planning and reproductive health is not the only path to sustainable development, but without addressing these issues achievement of other sustainable goals will be challenging [7].

Contraceptive is a cost-effective intervention for preventing mother to child HIV transmission [7]. The United Nations PMTCT strategy outlines four approaches necessary to cut mother-to-child transmission. Preventing unintended pregnancy in HIV infected woman is one of the recommended PMTCT strategy[9]. Study from U.S.-based Johns Hopkins University and the World Health Organization have found that only moderate reductions in unintended pregnancy rates among HIV-infected women would cut rates of HIV-positive births [9].

Ethiopia is the most populous country next to Nigeria with an estimated population of more than 100 million[4]. It has one of the highest fertility rate in Africa, with 45% of its population under-15 years old. Ethiopia's strong investment in health sector have contributed to a significant progress over the last 10 years in increasing contraceptive use and reducing fertility rates. However, fertility and population growth rates remains high, at 4.1 and 2.6 percent [10].

Ethiopian health sector transformation plan has planned to increase proportion of contraceptive use from 42–55%, to decrease total fertility rate from 4 to 3 percent, unmet need for family planning from 24–10% and adolescent age pregnancy rate from 12–3% [11].However, the 2016 Ethiopian Demographics and Health Survey estimated only 36% of married women were using any of contraception which is lower than the HSPD II target [12].

Preventing unintended pregnancy among sexually active HIV positive women is cost effective approach to primary prevention of mother to child transmission of HIV. It is also a global public health priority for

addressing the distracted state of maternal and child health in high HIV endemic areas like Ethiopia[13]. Every year, Meeting all unmet needs for modern contraceptive methods could avert 52 million unintended pregnancies in developing region [14].

Meeting the family planning goals of women living with HIV through proper counseling and contraceptives services could optimize health outcomes for women, cut the potential HIV transmission to their children and help achieve an HIV free generation by 2020 [15, 16]. Therefore, the aim of this study was to assess contraceptive use and associated factors among sexually active HIV positive women at ART clinic in Felege Hiwot Referral Hospital, Northwest Ethiopia, 2018.

Methods

Study design

This study employed a facility based cross-sectional study design using a quantitative method with structured interview administer questionnaire to obtain data from sexually active HIV positive reproductive age women attending ART clinic.

Study area, population and period

The study was conducted from June 1–30, 2018 at Felege Hiwot Referral Hospital. The hospital is a referral hospital which is found in Bahir Dar, capital city of Amhara regional state. The city is 564 km far away from Addis Ababa, the capital city of the Ethiopia. The Hospital provides different inpatient and outpatient services to the population of the region including ART and family planning services. The study population was all sexually HIV positive reproductive age women attending ART clinic of Felege Hiwot Hospital. There were about 6620 people living with HIV enrolled in the hospital during the study period. Out of these around 50.76% were reproductive age women. All of them were on HAART at the time of the study. In this study, we included non-pregnant sexually active women living with HIV in reproductive age group and who were available at the time of data collection.

Sample size determination and sampling procedure

Sample size was determined single population formula. Assumptions used in sample size calculation were, prevalence (P) of contraceptive utilization = 76% [17], margin of error of (d) = 5%, $Z_{\alpha/2} = 1.96$ at 95% confidence interval and non-response rate of 10%. The total sample size was 308.

First, we determined the numbers of the sexually active HIV positive women aged 15–49 years in ART clinic at Felege Hiwot Referral Hospital. Then, we developed sampling frame based on the number of participants. Finally, we selected the study participants by simple random sampling method i.e., lottery method.

Inclusion criteria

- All sexually active HIV positive reproductive age women who receive ART treatment in Felege Hiwot hospital at the time of data collection.

Exclusion criteria

- Sexually active HIV positive reproductive age women with surgical removal of uterus, who had permanent contraception, who did not speak the local language or unable to communicate for any reason, were pregnant and who had a known infertility were excluded.
- Sexually active HIV positive women who were below the age of 18 who came to the facility without guardian or family were excluded from study for consent issue.

Measurement

The main outcome variable was self-reported contraceptive use six months earlier the data collection period. We defined contraceptive use as current use of any method by women to delay or avoid pregnancy for the last six months. We defined modern contraceptive methods as use of Pills, intra-uterine contraceptive device (IUD), injectable (Depo-Provera), implants (implanor or jaddel), male/female condom, diaphragm, permanent methods such as tubal ligation and hysterectomy to delay or avoid pregnancy. We defined consistent condom use as the use of female or male condoms in all vaginal sexual relationships with casual and/or steady partners.

Independent variables included in this study were age of woman, educational level, number of living children, drinking habit, partner HIV status, HIV status disclosure to partner, having stable sexual partner, earlier contraceptive use experience, condom use, and having sexual activity in the last six months.

Data collection and data quality assurance

Trained data collectors collected the data using structured interviewer administered questionnaire which we adopted from earlier studies [17, 18]. The questionnaire had the following contents; Socio-demographic characteristics, reproductive and sexual characteristics, contraceptive use and HIV related health service factors. First, we prepared English version of the questionnaire then language experts translated it to local language (Amharic) and back to English to check consistency and accuracy. We recruited four diploma nurses and two Bachelor of Science nurses as data collectors and supervisors. Assigned supervisors closely managed the data collection process. In addition, we gave training for data collectors and supervisors on the overall content of questionnaire and data collection process for two consecutive days. We have carried out pre-test study on 5% of the calculated sample size of women in Adiss Alem Hospital ATR clinic which is out of study area and readjusted the questionnaire. We also reviewed medical records of participants to get clinical information on anti-retroviral treatment and CD4 count.

Data processing and analysis

The collected data were checked manually for completeness and consistency. Then, coded and entered into EPI Info version 3.5.3 and transferred to SPSS version 20 for analysis. We used descriptive statistics to summarize socio-demographic characteristics of participants and prevalence of contraceptive use. To show factors associated with contraceptive use, we carried out binary logistic regression analysis at two levels. We performed univariate logistic regression to each independent variable with the outcome variable and then we included variables with p-value < 0.05 in multivariate analysis. We measured strength of association using odds ratio, and 95% confidence intervals. Finally we declare statistical significance at p-value < 0.05.

Result

All 308 sampled HIV positive women participated in the current study making a response rate of 100%. The mean age of women was 26 years (SD ± 4.08). Almost half all participants, (52.2%) of women were aged between 15 and 29 years. More than two third (78.2%) were from Orthodox Christianity. Regarding to educational status, 144(46.8%) women were not educated while 164 (53.2%) were educated. Two third (59.7%) of participants were not employed.

Majority of participants, 260(84.4%) had drinking habit. On the other hand, the result of this study revealed that 67(21.8%) of participants had previous child death. Almost half of participants (45.5%) had wish to have more children in the future. Nearly half (55.8%) of participants had stable sexual relationship. From all participants, (73.1%) had disclosed their status to their sexual partner. One hundred, two- third (58.8%) of participants had one partner during the last six months before the survey. Nearly one-fourth (24.4%) participants had changed their regular sexual partner after their diagnosis. Reasons for changing partner were; death of partner (25.3%), divorce (34.7%) and spousal rejection (40%) (Table 1).

Prevalence of contraceptive use in the study area was 38.3% (95%CI: 32.5%-43.5%). Regarding to contraceptive use, almost two third (64%) of study participants had previous experience of contraceptive use and only one-fourth (26%) of participants were using dual contraceptive method during the survey. The most commonly used contraceptive was injectable (43.5%) followed by pills (21.4%) and implant (19.2%). Reasons for choosing particular method were, convenience (34.4%), being used secretly (26.9%), no need of more children (20.4%) and used as a dual protection (9.7%)

Regarding to HIV related features of participants, most 67(47.2%) had a CD4 count \geq 500 cells/mm³ and 12(8.5) had < 200 cells/mm³ CD4 count. More than three-fourth (72.7%) participants' partners tested for HIV and majority (81.3%) were sero-positive. Majority of participants, 243(78.9%) disclosed their HIV status to their partner. Around one-fourth of participants (24.4%) changed their partner since their diagnosis. The main reason for changing sexual partner were divorce (34.7%), partner death 19(25.3%) and spousal rejection 16(21.3%). On the other hand, majority of participants (89.0%) had not been treatment for STI's since their HIV diagnosis (Table 2).

Factors associated with contraceptive use

First we carried out binary logistic regression to select variables having association with contraceptive use. Then, we retained nine variables for multivariate analysis.

After adjusting confounding factors, maternal age, drinking habit, earlier contraceptive use experience, HIV status disclosure to sex partner, and having sexual activity in the last six months were significant in multivariate logistic regression. Age was positively associated with contraceptive use. Women with younger age (15–34) years old were three times more likely to use contraception (AOR = 3.089, 95%CI: 1.591–5.999) than their counter parts i.e.35–49 years old. Likewise, HIV status disclosure to sex partner was positively associated with contraceptive use.HIV positive women who disclosed their status to their sex partners were almost three times more likely to use contraception (AOR = 2.759,95%CI: 1.142–6.663) than their counterparts. Similarly, earlier contraceptive use history was positively associated with contraceptive use. Women who had previous contraceptive use experience almost three times more likely to use contraception (AOR = 3.361, 95%CI: 1.677–6.736) than their counterparts.

Having Sexual activity in the last six months also was positively associated with contraceptive use. Women who had sexual activity in the last six months were almost 5 times more likely to use contraception (AOR = 5.451, 95%CI: 2.724–10.908) than their counter parts. On the other hand drinking habit was negatively associated with contraceptive use. HIV positive women who had drinking habit were almost 4 times less likely to use contraception (AOR = 4.351, 95%CI: 1.824–10.379) than women who did not have drinking habit (Table 3)

Discussion

Contraceptive use issue among women enrolled in HIV care and treatment programs in the study area has important implications for the health of women and their infants. The current study stated that overall use of contraception among HIV positive reproductive age women was 38.3%.The finding was consistent with the study done in Addis Ababa (39.4%)[19], (36.3%)[20]. On the other hand, the finding of the current study was lower than evidence from Lusaka, Zambia (69%)[21], North West Ethiopia (47.7%) [22], Kabale, Uganda (55.1%)[23],Ireland(55%)[24] Addis Ababa Ethiopia(43.6%)[25], Tanzania(54%) [26],Gondar ,Ethiopia(50%)[27]. The low use in this study might be due to lack of integration between ART and family planning units. However, prevalence of this study was higher than the study done in Southwestern Uganda (27.8%)[28], western Africa (8%)[24]. Prevalence variation might be due socio demographic and cultural differences of the study population.

Many factors affected contraceptive use in the current study. Among these factors, HIV positive women with younger age (15–34) were more likely to use contraceptive method as compared with their counter parts (45–49). The finding is similar to the study done in Ethiopia and Uganda [22, 27, 28]. The possible explanation could be most of young women fear to become pregnant due to social and economic constraints in low- income countries like Ethiopia. Another possible explanation could be that younger women could have more information access than older women related to the benefits of contraceptive use.

Similarly, HIV positive women with earlier contraception use history were more likely to use contraception than their counterparts. The finding is incongruent with studies done in northwest Ethiopia[22, 29], South East Ethiopia, Uganda[30]. The possible explanation could be due to earlier contraceptive use history could help the women in understanding the methods and minimizing the fears concerning the side effects and myths heard about contraception. On the other hand, HIV positive women who disclosed their HIV status to their partners had higher odds of using contraception. Similar findings reported in studies from Ethiopia, Kenya, Nigeria and Zambia [17, 21, 31, 32]. This highlights that disclosure of HIV status to a sexual partner might ease communication between sexual partners to make decision about reproductive issues including contraceptive use. This might be important to get support from family and discussion can clarify uncertainties about contraceptives and possibly to increase confidence of women.

HIV positive women having drinking habit had lower odds of contraceptive use. The result is in line with the study conducted in Uganda[23]. Terplan et al.[33] showed that women with opioid and other substance use disorders used contraception less often than non-drug-using, including alcohol, comparison populations 56% vs. 81%, respectively. This might be that substance use could affect the memory of women i.e., the woman might forget to take daily oral contraceptive method or condom use. This could lead to unplanned pregnancy and sexually transmitted infections.

Conclusion

Prevalence of contraceptive use was low in the study area. Injectable are the most preferred method of contraception while convenience to use is the major reason for contraceptive use. Among a number of socio-demographic factors, age, drinking habit, earlier contraceptive use experience, HIV status disclosure to sexual partner and having sexual activity in the last six month were among the independent predictors of contraceptive use. Integrating family planning services and ART service would increase the uptake of contraceptive use. Efforts should be made create better sexual and reproductive health services for HIV positive women to practice their reproductive right in planned and safe way.

Abbreviations

AIDS:Acquired Immunodeficiency Virus Syndrome; ART:Anti-Retroviral Therapy; BDU:Bahir Dar University; CMHS:Collage Of Medicine And Health Science; FHRH:Felege Hiwot Referral Hospital; HAART:Highly Active Anti-Retroviral Therapy; HIV:Human Immunodeficiency Virus; IUD:Intra Uterine Device; MTCT:Mother to Child Transmission; PMTCT:Prevention of Mother to Child Transmission; STI:Sexually Transmitted Infection; SPSS:Statistical Package For The Social Sciences; AOR:Adjusted Odds Ratio;CI:Confidence Interval.

Declarations

Ethics approval and consent to participate

Ethical clearance obtained from Bahir Dar University, department of nursing research committee and college of health science institutional review board. Each study participant was adequately informed about the aim of the study and anticipated benefit and risk of the study by their data collector. Written consent sought from all study participants for protecting autonomy and ensuring confidentiality.

Consent for publication

Not applicable.

Availability of data and materials

The data of this study can't be shared publically due to presence of sensitive (confidential) participants' information.

Competing interests

There are no competing interests amongst authors

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Authors' contributions

All authors conceived and designed study. TA, analyzed, interpreted data and drafted the manuscript for important intellectual content. TT reviewed the manuscript. DJ, GM, MA and GT completed data collection and entry. All authors read and approved the last manuscript.

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Tables

Table1. Socio-demographic, Reproductive and sexual characteristics of participants attending ART clinic in FHRH, Bahir Dar City, North west Ethiopia, 2018.

Variable	Category(n=308)	Frequency	Percent (%)
Age (in years)	15-34	185	60.1
	35-49	123	39.9
Religion	Orthodox	241	78.2
	Muslim	45	14.6
	Others ^{1*}	20	6.5
Educational label	Educated	164	53.2
	Uneducated	144	46.8
Marital status	Married	66	21.6
	Unmarried	241	78.4
Occupation	Unemployed	184	59.7
	Government employ	63	20.5
	Private organization employ	61	19.8
Having Monthly income	Yes	181	58.8
	No	127	41.2
Drinking habit	Yes	260	84.4
	No	48	15.6
Number of living children	No child	56	18.2
	One and above children	251	81.8
Child death	Yes	67	21.8
	No	241	78.2
Desire to have child in the future	Yes	140	45.5
	No	168	54.5
Stable sexual relationship	Yes	172	55.8
	No	136	44.2
Had sexual activity in the last 6 months	Yes	172	55.8
	No	136	44.2
Number of sexual partners	None	103	33.4
	One	181	58.8

	Two and above	24	7.8
Changed regular sexual partner	Yes	75	24.4
	No	233	75.6
Reasons for changing	Partner died	19	25.3
	Divorced	26	34.7
	Rejected by spouse	20	40
HIV status disclosed to Partner	Yes	225	73.1
	No	83	26.9

1*=protestant, catholic, Jehovah witness

Table 2. Contraceptive use and HIV related features of participants attending ART clinic in FHRH, Bahir Dar City, North west Ethiopia, 2018.

Variable	Category(n=308)	Frequency	Percent (%)
Ever used contraceptives	Yes	197	64.0
	No	111	36.0
Currently using contraceptives	Yes	118	38.3
	No	190	61.7
Types of preferable methods used	Pills	66	21.4
	Injection	134	43.5
	Implant	59	19.2
	Others ^{1*}	49	15.9
Reason for choosing particular method(n=186)	Convenience	64	34.4
	Cost	16	8.6
	Can be used secretly	50	26.9
	No need more children	38	20.4
	Dual protection	18	9.7
	recommend contraception to others	Yes	209
	No	91	29.5
	Not certain	8	2.6
Use dual contraceptive method	Yes	80	26.0
	No	228	74.0
Currently using condom	Yes	143	46.4
	No	165	53.6
Use of condom in the last 6 months	consistently	136	44.2
	Not consistently	172	55.8
With whom too often use condom?(n=139)	regular sexual partners	76	54.7
	casual sexual partners	63	45.3
Recent CD4 count (cells/mm ³)(n=142)	<200	12	8.5
	200-349	32	22.5
	350-500	31	21.8

	≥500	67	47.2
Partner tested for HIV	Yes	224	72.7
	No	84	27.3
Partner HIV status(n=224)	Positive	182	81.3
	Negative	42	18.8
Partner disclosure of your HIV Status	yes	65	21.1
	No	243	78.9
sexual partner change since diagnosis	yes	75	24.4
	No	233	75.6
reasons for changing sexual partner(n=305)	Partner died	82	26.9
	Divorced	115	37.7
	Spousal rejection	108	35.4
Treated for STI's since HIV diagnosis	Yes	34	11.0
	No	274	89.0

1*=loop, condom, calendar

Table3. Multivariate analysis of factors associated with contraception use among participants attending ART clinic in FHRH, Bahir Dar City, North west Ethiopia, 2018.

Variables	Contraceptive use, n (%)		COR (95%CL)	AOR (95%CL)	p-value
	Yes	No			
Age of woman of woman					
15-34	92 (49.7%)	93(50.3%)	3.69(2.194-6.208)	3.09(1.591- 5.999)*	0.001
35-49	26(21.1%)	97(78.9%)	Ref	Ref	
Educational level of woman					
Educated	73(44.5%)	91(55.5%)	1.77(1.105-2.818)	1.66(0.915-3.025)	0.095
Uneducated	45(31.3%)	99(68.8%)	Ref	Ref	
Drinking habit of woman					
Yes	79(30.4%)	181(69.6%)	Ref	Ref	
No	39(81.3%)	9(18.8%)	9.93(4.590-21.474)	4.35(1.824-10.379)*	0.001
Previous contraceptive use experience					
Yes	100(50.8%)	97(49.2%)	5.33(2.992-9.483)	3.36(1.677-6.736)*	0.001
No	18(16.2%)	93(83.8%)	Ref	Ref	
HIV status of tested Sexual Partner					
Positive	61(33.5%)	121(66.5%)	Ref		
Negative	24(57.1%)	18(42.9%)	2.65(1.334-5.243)	1.88(0.885-4.000)	0.101
HIV status disclosure to partner					
Yes	34(52.3%)	31(47.7%)	2.08(1.193-3.612)	2.76(1.142,6.663)*	0.024
No	84(34.6%)	159(65.4%)	Ref	Ref	
Having stable sexual partner					
Yes	84(48.8%)	88(51.2%)	2.86(1.754-4.674)	1.85(0.941-3.637)	0.075
No	34(25.0%)	102(75.0%)	Ref	Ref	

Having Sexual activity in the last 6 months					
Yes	91(52.9%)	81(47.1%)	4.74(2.705-7.605)	5.45(2.724-10.908)*	0.000
No	27(19.9%)	109(80.1%)	Ref	Ref	
used condom in the last six months					
Yes	70(49.0%)	73(51.0%)	2.34(1.462-3.738)	1.36(0.754-2.468)	0.304
No	48(29.1%)	117(70.9%)	Ref	Ref	

***p-value <0.05**