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Research Article

Dual Contraceptive Use and Associated Factors among Women Living with HIV Attending Art Clinics in West Zone Health Facilities Oromia, Ethiopia

Dereje Bayissa Demissie* and Tolera Gudisa

Assistant Professor, Department of Midwifery, College of Medicine and Health Sciences, Ambo University, Ambo, Ethiopia

***Corresponding Author**: Dereje Bayissa Demissie, Assistant Professor, Department of Midwifery, College of Medicine and Health Sciences, Ambo University, Ambo, Ethiopia.

Received: January 02, 2019; **Published:** March 15, 2019

Abstract

Background: The emergence of HIV epidemic is one of the biggest public health challenges in the world, special Sub-Saharan Africa is the epicentre for the epidemic and continues to carry the full burden of its health and socioeconomic impact. Ethiopia is among the countries that mostly affected by the HIV epidemic. Dual protection is an important preventive approach which can prevent both unwanted pregnancy and sexually transmitted infections/HIV. Evidence relating to dual method utilization was rare.

Objective: The aim of the study was to determined dual method utilization and associated factors among WLHIV attending ART clinic in west zone Hospitals.

Methods: An institutional based cross-sectional study design was conducted from February 21 - April 20th, 2016. The study participants were selected by computer generated simple random sampling technique. A pre- tested structured questionnaire was used to collect data. Both bivariate and multivariable logistic regressions were used to identify associated factors.

Results: The proportion of dual method utilization among women living with HIV in west shoa Hospitals were 59.5% with 95% CI of (54.4% - 64.8%) had dual method users of which majority, 54.7% were used injectable in addition to condom. The main reason mentioned for dual contraceptive use, 86.2% were reported that for dual protection (pregnancy/STI/HIV).

This study revealed that factors increased utilization of dual method used were marriage length less five years were 3.7 times (AOR, (95% CI), 3.7 (1.82 - 7.526)], had discussed dual method use with their partner [AOR, (95% CI), 2.69 (1.227 - 5.901)], informed their husband/partner method of family planning used [AOR, (95% CI), 2.99 (1.354 - 6.60)] and had discussed with health care providers dual contraceptive utilization [AOR, (95% CI), 3.15 (1.130 - 8.78)], didn't disclosed their HIV status to their family [AOR, (95% CI), 3.15 (1.130 - 8.780)] and partner had started HAART [AOR, (95% CI), 2.16 (1.083 - 4.30)] were identified factors significantly associated with dual contraceptive utilization.

Conclusion: This study determined proportion of dual contraceptive utilization of reproductive age women living with in west shoa Hospitals 40% were not used dual method while attending ART program at health facility. In this study: - marriage length, discussed dual contraceptive utilization with their partner, informed their husband/partner method of family planning used and discussed with health care providers, discloser status to their family and partner had started HAART were demonstrated significantly associated with dual contraceptive utilizations, therefore, Policy makers would be better to consider and plan to increases number of dual contraceptive users among reproductive women living with HIVs.

Keywords: *Dual Contraceptive Utilization; Women Living with HIV; ART Clinics*

Abbreviations

AIDS: Acquired Immunodeficiency Syndrome; ART: Antiretroviral Therapy; AOR: Adjusted Odd Ratio; COR: Crude Odd Ratio; HAART: Highly Active Antiretroviral Therapy; EDHS: Ethiopian Demographic and Health Survey; FMOH: Federal Ministry of Health; HIV: Human Immunodeficiency Virus; MTCT: Mother-to-child Transmission; PMTCT: Prevention of Mother to Child Transmission; PLHIV: People Living with HIV; SPSS: Statistical Package for Social Sciences; SSA: Sub Saran African; WLHIV: Women Living with HIV; WHO: World Health Organization

Introduction

The emergence of HIV epidemic is one of the biggest public health challenges in the world. Sub-Saharan Africa is the epicentre for the epidemic and continues to carry the full burden of its health and socioeconomic impact. Ethiopia is among the countries that mostly affected by the HIV epidemic with an estimated adult prevalence of 1.5% and a large number of people living with the virus (approximately 800,000) and about 1 million AIDS orphans [1].

Dual protection is recommended for all clients on ART to ensure effective and appropriate contraception, specifically for women on ART with nevirapine, lopinavir/ritonavir, nelfinavir and ritonavir. HIV-positive women on ART with any of the above ART drugs and using COCs as contraception need to be monitored closely. Rifampicin often used to treat tuberculosis in HIV- positive clients, also decreases effectiveness of COCs by reducing circulating oestrogen. Therefore, woman on ART and/or Rifampicin should use dual contraceptive methods [2]. Protease Inhibitor and Non-nucleoside reverse transcriptase inhibitor ART drugs interact with combined oral contraceptives and resulting in possible decreases in ethinyl estradiol or increases in estradiol or norethindrone levels. These changes may decrease the effectiveness of the oral contraceptives or potentially increase the risk of estrogens- or progestin-related side effects. Non-nucleoside reverse transcriptase inhibitor such as Efavirenz reduce active metabolites of norgestimate, Nevirapine reduce Ethinyl estradiol and Norethindrone. Boosted Protease Inhibitor drugs such as ritonavir also reduce Ethinyl estradiol, Lopinavir decrease Ethinyl estradiol; Tipranavir also reduces Ethinyl estradiol. Therefore, sero-positive women on ART medication and taking oral contraceptives needed additional reliable method of barrier contraception or dual-contraceptive methods [3,4]. In settings where HIV prevalence is high, management of sexual and reproductive health of HIV-infected women is critical to reduce HIV transmission and maternal mortality. However, prevalence of dual contraceptive method utilization and its determinant factors have not well understood in a resource limiting areas like Ethiopia specifically in the study area. There were many factors responsible for dual contraceptive utilization for WLHIV which need to be identified by researches and which are different from facility to facilities. The major consequences of family planning failure are increasing new pediatrics HIV infection, orphan children and unwanted pregnancy among these populations. In order to design effective policies and interventions that will protect PLHIV and their sexual partners, and unborn children, knowledge of factors affecting dual contraceptive utilization and sexual reproductive intentions among PLHIVs are crucial.

Materials and Methods

Criteria of judgment

The study wasconducted from January to March 2015, at ART clinics of governmental hospitals in west Shoa zone, Oromia Regional State, Ethiopia. Ambo town which is the capital of the zone is located 112 kilometers to the west of Addis Ababa the capital of the country. According to information from the zonal health office the total population in zone was estimated to be 2,381,079 of which 1,214,350 of them are female. The health system of the zone consists of one zonal Hospital, 4 primary hospitals, 88 health centers and 447 health posts with 93% of potential health service coverage. There are different governmental and non-governmental organizations working on HIV/AIDS in the zone. There are 3 hospitals namely Ambo, Gedo and Gindeberet Hospitals and 18 other health centers which are currently providing ART services in west shoa zone. The total number of people enrolled to ART and Pre-ART in west Shoa zone are 15,319 of which 7,971 are following at Ambo, 784 Gindeberet and 403 at Gedo hospitals.

Study design and data collection process

An Institutional based cross-sectional study design with both quantitative and qualitative data collection methods was conducted in ART clinic in west Shoa zone Hospitals. The study inclusion criteria were Women living with HIV who are 18 years of age and above and having follow up at ART clinics in public hospitals/Health centers of west Shoa zone for at least 6 months prior to data collection. Sample size was determined by using single population proportion formula 30% of proportion (P) of dual contraceptive utilization from the study conducted at Gimbi Town among women living with HIV [5], with 95% confidence interval and 5% marginal error. By considering 5% non-response rate, the final sample size was 339. All hospitals and Health centers found in west shoa zone which providing ART services were identified and randomly selected by computer generated methods to include in the study. List of all women living with HIV aged 18 years and above of randomly selected study sites were prepared and entered into SPSS window version 20 by using their Pre ART registration numbers from HMIS data base. Simple random sampling technique by computer generated samples was utilized at each hospital and Health center to select the study subjects. The number of study respondents were allocated proportionally for all two hospitals and six Health centers, based on their total number of patients. Data collectors had cross checked Pre-ART card numbers of all clients who came to ART clinic with sampled card numbers daily. The filled questionnaires were collected and checked for consistencies and completeness daily by supervisors and principal investigators. Pre -test of the questionnaire was done on 5% of the women living with HIV at Holota health center, to identify any ambiguity, check for consistency of questionnaire, to check acceptability and to make necessary correction one week before the actual data collection.

Definition of terms and operational definition

- Health facilities: All health care facilities including both health centers and hospitals.
- Dual protection: Prevention from both STIs and unwanted pregnancy by contraceptive method use.

- Modern contraceptive methods: Including pills, IUD, injectables, implants and male and female condoms (excluding lactational amenorrhoea, rhythm, and withdrawal).
- Contraceptive method utilization: A respondents who responded as they currently using any one of modern contraceptive methods (oral contraceptive pills, injectables, implants, IUCD, male or female condoms and male and female sterilization) to prevent pregnancy.
- Dual Contraceptive method utilization: Utilization of any hormonal or permanent contraceptive method along with male or female condom.
- Unwanted pregnancy: A pregnancy that has occurred after a woman has reached her desired family size and the women will not want to become pregnant at the time of conception nor in the future.

Data processing and analysis

The returned questionnaires were checked for completeness, cleaned manually, coded and entered into EPI INFO 7.1.0 version and then transferred to SPSS windows version 20.0 for further analysis. Frequencies mean and standard deviation was used to summarize descriptive statistics of the data and text, tables and graphs were used for data presentation. Bivariate analysis were used primarily to check which variables have association with the dependent variable individually. Variables which are found to have association with the dependent variables were then entered in to Multiple Logistic regression for controlling the possible effect of confounders and finally the variables which have significant association was identified on the basis of AOR, with 95%CI and p-value to fit into the final regression model.

Ethical considerations

Ethical clearance was obtained from the Ethical review board of Ambo University.

Formal letter of cooperation was written to respective hospitals and it was also obtained from Hospital Health center administrations. Informed consent from each study participants was obtained after the nature of the study is fully explained in their local languages as it is attached in the questionnaire. The right to refuse was respected and information collected from this research project was kept confidential and the collected information was stored in a file, without the name of study participant (anonymously), but code was assigned for each and had not been disclosed to others except the principal investigators and it was kept locked with key.

Results

Socio demographic characteristics

Of 323 sampled Reproductive age WLHIVs, data were collected from 304 which give a response rate of 94.1%. The mean age of the study participants were 31.12 ± 6.18 years which range from 16 - 48 years females.

Regards of their educational status 121 (39.9%) were illiterates and 71 (23.4%) were merchant in occupational and 57 (18.8%) were unemployed women. Of total women about 259 (85.2%) were married and family monthly income distribution of Women living with HIV, 96 (31.6%) had an income 301 to 500 birr per month Ethiopian birr (1 USD = 27.42Birr) (Table 1).

Reproductive history and current fertility desire of WLHIV attending ART units

The mean age of first marriage were 18.89 + 3.48 years which range from 12 - 31 years, mean age of first sexual debut were 16.95 + 3.2St.D with ranges 10 thru 30 yrs and mean age of first child birth were 20.69 + 3.85 yrs with 11 thru 34 yrs.

From a total interviewed WLHIV majority 298 (98%) had biological living children of which 54.6% had 2 children, whereas only 6 (2%) have had no biological living children. Of total women living with HIV about 65 (21.4%) had ever child died since HIV diagnosis.

Of all respondents about 143 (47%) had at least one pregnant since HIV diagnosis of which ever pregnant women since HIV diagnosis 38 (26.6%) were unplanned/unwanted pregnancy while on the contrary 118 (38.8%) WLHIVs had fertility desires for future pregnancy.

Of total WLHIVs about 106 (34.9%) and 98 (32.2%) reported that faced their partner's or their family's' pressure and community pressure for having children respectively.

Of 304 women living with HIV about 43 (14.1%) had ever discontinued contraceptive method in the last 12 months of which 65% were injectable (Depo-Provera).

Socio-demographic variables	Categories	Frequency (n)	Percent (%)
Sex (n = 304)	Female	304	100
Age (n = 304) Mean age 31.12 St.D 6.18 yrs	<=27 years	79	26.0
	28 - 31 years	80	26.3
	32 - 35	73	24.0
	> 36+ years	72	23.7
Ethnicity (n = 304)	Oromo	243	79.9
	Amhara	45	14.8
	Tigre	6	2.0
	Gurage	10	3.3
Religion (n = 304)	Orthodox	173	56.9
	Protestant	118	38.8
	Muslim	13	4.3
Occupation (n = 304)	Daily labor	68	22.4
	Merchant	71	23.4
	Gov't employed	22	7.2
	House wife	81	26.6
	Farmer	5	1.6
	Unemployment	57	18.8
Level of school (n = 304)	Illiterate	121	39.8
	Primary and secondary (1 - 8)	39	12.8
	High school (9 - 10)	74	24.3
	preparatory school (11 - 12)	30	9.9
	College and above	40	13.2
Marital status (n = 304)	Married	259	85.2
	Single	4	1.3
	Widow/widowed	21	6.9
	Divorced/separated	20	6.6
Duration of stay with partner (n = 300)	0 - 5 years	93	30.6
	> 5 years	207	68.1
Family Income (n = 304)	100 - 300 Birr	91	29.9
	301 - 500 birr	96	31.6
	501 - 1000 Birr	69	22.7
	> 1000 Birr	48	15.8
Residence (n = 304)	Urban area	209	68.8
	Rural area	95	31.3

Table 1: *Sociodemographic characteristics of 304 WLHIV attending ART clinic in west zone ART health facilities, Oromia, Ethiopia.*

Women living with HIVs reported that the main reasons had not avoid unwanted pregnancy by FP about 22.2% were lack of contraceptive awareness (See figure 1).

Of total respondents about 37.2% were reported that desired for pregnancy was the main reason for discontinuation of family planning methods (See figure 2).

Age of first marriage (n= 300) Mean age 18.89 + 3.48 yrs 12 range to 31 yrs	low thru 16 yrs	83	27.7
	17 thru 19 yrs	84	28.0
	20 thru 21 yrs	73	24.3
	22 trhu High yrs	60	20.0
Age of first sexual debut (n = 304) Mean 16.95 + 3.2St.D 10 thru 30 yrs	low thru 15yrs	124	40.8
	low thru 16 yrs	41	13.5
	17 thru 19 yrs	68	22.4
	20 thru HI yrs	71	23.4
Age of first child birth (n = 290) 20.69 + 3.85 yrs 11 thru 34 yrs	Low thru 18 yrs	96	33.1
	19 thru 21 yrs	87	30.0
	22 thru 24 yrs	64	22.1
	25 thru High	43	14.8
Number of living children (biological child) (n = 304)	Number of Biological child = 1	44	14.5
	Number of Biological child = 2	166	54.6
	Number of Biological child = 3	88	28.9
	Have no biological child	6	2.0
Number of non-bio children (n = 26)	Number of non-bio children = 1	17	65.4
	Number of non-bio children = 2	9	34.6
Have you ever your child died since HIV diagnosis (n = 304)	Yes	65	21.4
	No	233	76.6
	have no child	6	2.0
Have fertility desires (n = 304)	Yes	118	38.8
	No	186	61.2
Pregnancy since HIV diagnosis (n = 304)	Yes	143	47.0
	No	161	53.0
From ever Pregnant women since HIV diagnosis (n = 143)	Planned pregnancy/wanted	105	73.4
	Unplanned pregnancy/unwanted	38	26.6
Faced any/your partners family pressure for child birth	Yes	106	34.9
	No	198	65.1
Community pressure in your area regarding to child birth	Yes	98	32.2
	No	206	67.8
What was your previous birth interval	No birth before	56	18.4
	Less than two year	53	17.4
	Between two to three year	106	34.9
Did you ever discontinued contraceptive method in the last 12 months (n = 304)	Yes	43	14.1
	No	261	85.9
Types of contraceptive method discontinue (n = 43%)	Injectable	28	65.1
	Pills	7	16.3
	Implants	8	18.6

Table 2: *Reproductive history and current fertility desire of WLHIV attending ART units in West shoa zone Hospitals/HCs, 2017.*

Accessibility of modern contraceptive and mass media

Regards to accessibility of modern contraceptive methods and exposure to mass media among WLHIVs were that about 80.6%, 44.1% and 58.6% were visited by Health Extension workers, listen radio every day and watch TV at least once per week respectively.

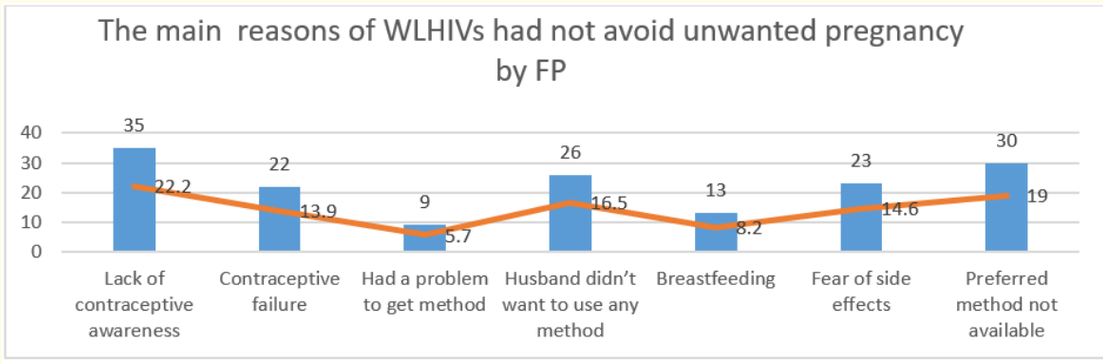

Figure 1: *Distributions of WLHIVs reasons for had not avoid unwanted pregnancy by FP among women living with HIV in West shoa zone Hospitals/HCs, 2017.*

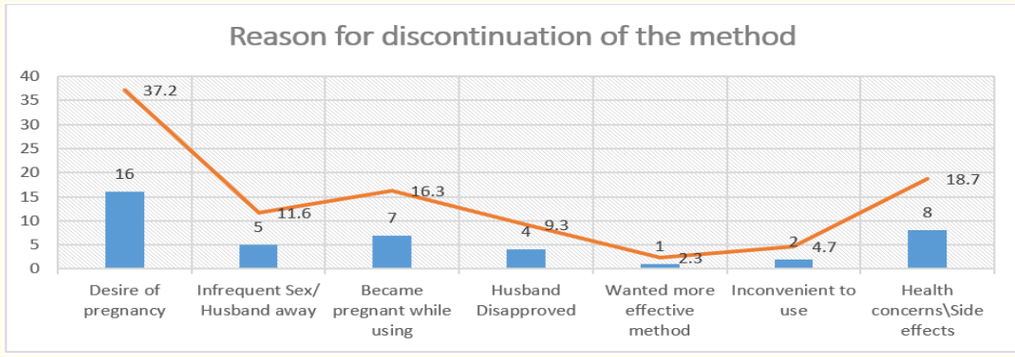

Figure 2: *Distributions of reasons for discontinuation of family planning method among women living with HIV in West shoa zone Hospitals/HCs, 2017.*

Concerned distance of the nearest health facilities about 73 (24%) women were walk more than 60 minutes to reach nearest health facility on foot.

Of total respondents 70.4%, 36.8% and 16.4% were ever discussed family planning issue with your partner, joint decision for contraceptive method and beliefs that contraceptive use were against their religious belief respectively. Almost all of respondents which 93% were known place of family planning method obtain.

The knowledge distribution of women living with HIV towards modern contraceptive methods revealed that 60.9% were poor knowledgeable (See figure 3).

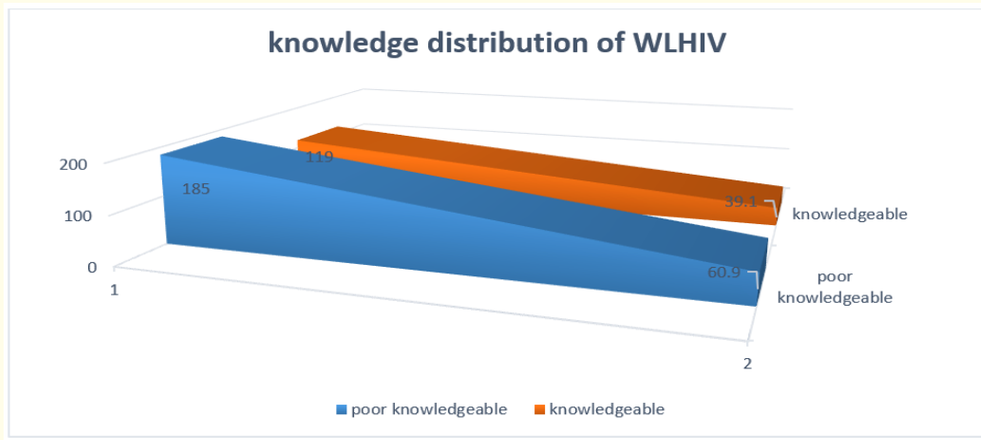

Figure 3: *Knowledge distribution of women living with HIV towards modern contraceptive methods in West shoa zone Hospitals/HCs, 2017.*

In the last 12 months, visited by a HEW/VCHW or others who talked to you about family planning	Yes	245	80.6
	No	59	19.4
listen to radio every day	Yes	134	44.1
	No	170	55.9
watch television once a week	Yes	178	58.6
	No	126	41.4
How much minute you travel to reach the nearest family planning service	Less than 30 minutes	133	43.8
	30 - 60 minute	86	28.3
	More than 1 hour	73	24.0
	Don't know	12	3.9
Discussed about family planning issue with your partner	Ever discussed	214	70.4
	Never Discuss	90	29.6
Who would decide to use any contraceptive method	Mainly respondent/ the women	145	47.7
	Husband decision	47	15.5
	Joint decision	112	36.8
Is the use of modern contraceptive methods against your religious belief	Yes	50	16.4
	No	254	83.6
	Have no child	6	2.0
know of a place where you can obtain a method of family planning	Yes	283	93.1
	No	21	6.9

Table 3: *Distribution of aaccessibility of modern contraceptive and exposure mass media women living with HIV in West shoa zone Hospitals/HCs, 2017.*

Antiretroviral therapy and sexual partners and disclosure status

Out of the total respondents almost all 282 (92.6%) were on ART of which 263 (86.5%) were more than 2 (two years) since HIV diagnosis.

With regarding to partner's/spouse's ART status from total who have had partner 273 (89.8%) about 211 (77.3%) are HIV-positive (concordant) while 62 (22.7%) were negative/discordant.

From total who have had partner, about 88.5% were disclosed their HIV status to their partner and 69.4% of total were disclosed to their family member.

From the total study participants about 74 (24.3%) were changed their sexual partner since HIV diagnosis.

Duration of time since HIV diagnosis (years)	< 2 years	41	13.5
	> 2 years	263	86.5
Starting HAART	Yes	282	92.8
	No	22	7.2
have partner	Yes	273	89.8
	No	31	10.2
regular partner know your HIV status	Yes	269	88.5
	No	35	11.5
partner HIV positive (n = 273)	Yes	211	77.3
	No	62	22.7
disclose HIV status to family	Yes	211	69.4
	No	93	30.6
Have you changed sexual partners since HIV diagnosis	Yes	74	24.3
	No	230	75.7

Table 4: *Distribution of antiretroviral therapy, sexual partners and disclosure status of WLHIV attending ART units in West shoa zone Hospitals/HCs, 2017.*

Contraceptive use and dual contraceptive utilization of WLHIV attending ART unit

The majority of respondents 259 (85.2%) were sexually active in the last six months of which 233 (85.3%) had sex with regular partner (husband) and 14 (5.2%) were had multiple sexual partners.

Out of 304 WLHIV interviewed 196 (64.5%) were used condom in the last six months, of which 81 (26.6%) were used always.

Proportion of dual contraceptive utilization among WLHIVs was determined, out of total WLHIVs about 181 (59.5%) with 95% CI of (54.4% - 64.8%) had dual contraceptives users of which majority, 99 (54.7%) were used Depo-Provera in addition to condom. The main reason mentioned for dual contraceptive use, 156 (86.2%) were reported that for dual protection (pregnancy/STI/HIV), 8 (4.4%) to protect a negative partner, 16 (8.8%) advised by health professionals.

Out of the total study participants 193 (63.5%) were discussed with their partner about dual contraceptive utilization and 242 (79.6%) were discussed about dual contraceptive benefit with health profession and others reproductive health needs with health professionals during follow up care (See table 5).

Sexual active in the last six months	Yes	259	85.2
	No	45	14.8
On average, how often did you have sex in the last 6 months (n = 273)	At least 3 times per week	77	28.2
	Around once a week	145	53.1
	About once a month	37	13.6
	Less frequently than once a month	14	5.1
How many sexual partners have you had in the last 6 months	None	26	9.5
	One	233	85.3
	Two	10	3.7
	Three	4	1.5
Condom use in the last six months	Yes	196	64.5
	No	108	35.5
Frequency of Condom use in the last six months	Always	81	26.6
	Almost always	105	34.5
	No/inconsistent condom use	10	3.3
Dual contraceptive use	Yes	181	59.5
	No	123	40.5
Which methods if yes to Q no	Oral contraceptive pills	7	3.87
	Injectables(Depo-Provera)	99	54.7
	IUD	23	12.7
	Implants	52	28.73
Reason for dual contraceptive use/use contraceptive methods in addition to condom	Dual protection (unwanted pregnancy)	156	86.2
	To protect a negative partner	8	4.4
	Advice by health workers	16	8.8
	Fear of re-infection with new strain	1	0.6
Did you discussed with your partner about dual contraceptive utilization	Yes	193	63.5
	No	111	36.5
Did you discussed with health care providers about dual contraceptive utilization	Yes	242	79.6
	No	62	20.4

Table 5: *Distribution of contraceptive use and dual contraceptive utilization of WLHIV attending ART in West shoa zone Hospitals/HCs, 2017.*

Women living with HIV reported that the main reason not used condom were partner objection, feeling it was not comfortable and desired to conceive which account 22.4%, 9.5% and 3.6% respectively (See figure 4).

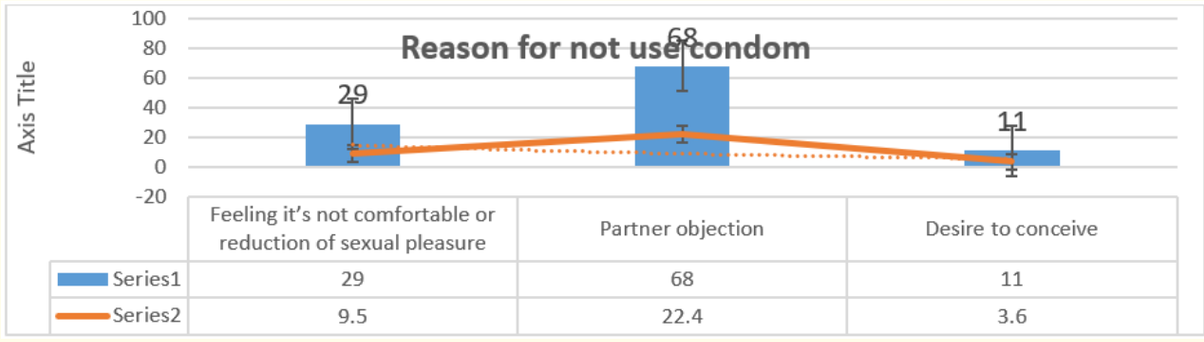

Figure 4: *Distribution of reason mention non user of condom among women living with HIV in West shoa zone Hospitals/HCs, 2017.*

Proportion of dual contraceptive utilization among WLHIVs was determined, out of total WLHIVs about 181 (59.5%) with 95% CI of (54.4% - 64.8%) had dual contraceptives users of which majority, 99 (54.7%) were used Depo-Provera in addition to condom (See figure 5).

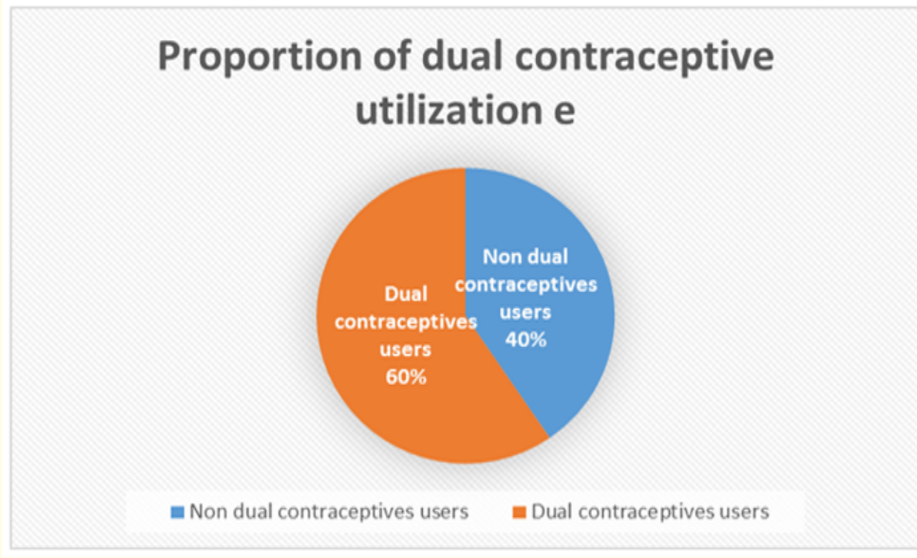

Figure 5: *Proportion of dual contraceptive utilization among WLHIVs among women living with HIV in West shoa zone Hospitals/HCs, 2017.*

Factor associated with dual contraceptive utilization among WLHIV at Binary logistic regression

According table showed that Factor associated with dual contraceptive utilization among WLHIV at Binary logistic regression at PV of less than 0.25 were: marital status, duration stay with partner, Educational status, Occupation, have partner, changed sexual partners since HIV diagnosis, Discussed with partner about dual contraceptive utilization, Husband/partner know that you are using a method of family planning, Discussed with health care providers about dual contraceptive utilization, Have partner, Husband/Partner HIV positive, disclose your status regular partner, Have you had sex in the last 6 months, Partner starting HAART/If HIV positive, Disclose HIV status to their family were some factors associated with dual contraceptive use.

Factors associated with dual contraceptive utilization among WLHIV attending ART at multiple Logistic regression for controlling the possible effect of confounders and finally the variables which have significant association will be identified on the basis of AOR, with 95%CI and p-value to fit into the final regression model were identified that (See table 6).

Women living with HIV who had marriage length less five years were 3.7 times [AOR, (95% CI), 3.7 (1.82 - 7.526)] more likely to utilized dual contraceptive methods as compared to more than five years.

Variables	Dual contraceptive use (n = 304)		P-value	COR (95% CI)	p-value	AOR (95% CI)
	Yes (%)	No (%)				
Duration of stay with partner						
0 - 5 years	70 (23.3)	23 (7.7)	0.000	2.79 (1.619 - 4.81)***	0.000	3.705 (1.82 - 7.526)***
>5 years	108 (36.0)	99 (33.0)	1.00	1.00		1:00
Discussed with t partier their about dual contraceptive utilization						
Yes	145 (47.7)	48 (15.8)	0.000	6.29 (3.76 - 10.53)***	.014	2.691 (1.227 - 5.901)*
No	36 (11.8)	75 (24.7)				1:00
informed their husband/ partner method of family planning used						
Yes	154 (50.7)	65 (21.4)	0.000	5.089 (2.96 - 8.74)***	.007	2.989 (1.354 - 6.60)**
No	27 (8.9)	58 (19.1)		1:00		1:00
Discussed with health care providers about dual contraceptive utilization						
Yes	167 (54.9)	75 (24.7)	0.000	7.634 (3.97 - 14.69)	.028	3.149 (1.130 - 8.780)*
No	14 (4.6)	48 (15.8)		1:00		1:00
Partner Starting HAART? If HIV positive.						
Yes	146 (49.8)	70 (23.9)	0.000	2.93 (1.72 - 5.01)	.029	2.158 (1.083 - 4.30)*
No	32 (10.9)	45 (15.4)		1:00		1:00
Disclose HIV status to their family						
Yes	121 (69.4)	90 (29.6)			0. 038	.485 (.245 - .962)*
No	60 (30.6)	33 (10.9)	0.241	1.352 (0.82 - 2.24)	.038	3.149 (1.130 - 8.780)*

Table 6: *Factors associated with dual contraceptive utilization among WLHIV attending ART units in West shoa zone Hospitals/HCs, 2017 G.c.*

*Note: ***p < 0.001, **p < 0.01, *p < 0.05.*

Women living with HIV who had discussed dual contraceptive utilization with their partner were 2.7 times [AOR, (95% CI), 2.69 (1.227 - 5.901)] more likely to utilized dual contraceptive methods as compared to those were not discussed.

Women living with HIV who had informed their husband/partner method of family planning used were 2.99 times [AOR, (95% CI), 2.99 (1.354 - 6.60)] more likely to utilized dual contraceptive methods as compared to those were not informed current methods used.

Women living with HIV who had discussed with health care providers about dual contraceptive utilization were 3.15 times [AOR, (95% CI), 3.15 (1.130 - 8.780)] more likely to utilized dual contraceptive methods as compared to those were not discussed.

Women living with HIV whose partner had started HAART, If HIV positive were 2.16 times [AOR, (95% CI), 2.16 (1.083 - 4.30)] more likely to utilized dual contraceptive methods as compared to those whose partner had not started HAART.

Women living with HIV who had not disclosed their HIV status to their family were 3.15 times [AOR, (95% CI), 3.15 (1.130 - 8.780)] more likely to utilized dual contraceptive methods as compared to those disclosed their HIV status to their family.

Discussion

Current study findings on condom utilization revealed that, out of 304 women living with HIV interviewed 196 (64.5%) were used condom used in the last six months by themselves or their partners, of which 81 (26.6%) were used always, this result is similar with study done in India which is 63% and in Ethiopia fitche Hospital 66.5% were used condom of which 71% were used always [6,7].

Consistent use of condom with study done in Fitche hospital is higher than west shoa hospitals which 26.6% vs 71% Fitche Hospital) this difference may be due to 60.9% women living with HIV had poor knowledge towards modern contraceptive methods.

Proportion of dual contraceptive utilization among WLHIVs was determined which is 181 (59.5%) with 95% CI of (54.4% - 64.8%) had dual contraceptives users in west shoa hospitals. This figure is high when compared to previous studies conducted in Soweto, South Africa showed that 40%, India reveals that 5% and Ethiopia north shoa fitche Hospital 32% and Gimbie town 30 were dual contraceptives users [5-8]. This difference may be due to the government's extensive effort to promote condom utilization by using mass media and health extension workers to prevent most unwanted pregnancy. But this findings is inline with study conducted North Ethiopian in Tigray showed that 59.9% were used dual method [9].

This study finding identified that the main reason mentioned for dual contraceptive use, 156 (86.2%) were reported that for dual protection (pregnancy/STI/HIV), 8 (4.4%) to protect a negative partner, 16 (8.8%) advised by health professionals which are similar with previous study done in Ethiopia north shoa fitche Hospital 33.8% were reported that for dual protection (pregnancy/STI/HIV), 10.3% to protect a negative partner, 4.4% fear of re-infection with new stain of HIV and 1.2% advised by health professionals [7]. Whereas previous study conducted revealed that for those not used condom the main reasons mentioned were partner objection, feeling it was not comfortable and desired to conceived which account 17.4%, 7.4% and 7.1% which are similar with current study reported that the main reason not used condom were partner objection, feeling it was not comfortable and desired to conceive which account 22.4%, 9.5% and 3.6% respectively [1]. So this indicated that Interventions should include benefits of dual methods while counseling about the negative impact of STI and unplanned pregnancy among reproductive age women living with HIVs.

Women living with HIV reported that the main reason not used condom were partner objection, feeling it was not comfortable and desired to conceive which account 22.4%, 9.5% and 3.6% respectively.

This study identified that factors found to be associated with dual contraceptive utilization of reproductive age women living with HIV from sociodemographic factor was marriage length less five years were 3.7 times [AOR, (95% CI), 3.7 (1.82 - 7.526)] which was supported by previous study age at first marriage < 18 years (Early marriage) [AOR = 3.44, 95% CI: 1.27 - 9.29)] [7].

This study revealed that factors increased utilization of dual method used were discussed dual contraceptive utilization with their partner [AOR, (95% CI), 2.69(1.227 - 5.901)], informed their husband/partner method of family planning used [AOR, (95% CI), 2.99 (1.354 - 6.60)] and discussed with health care providers about dual contraceptive utilization [AOR, (95% CI), 3.15 (1.130 - 8.78)].

This is similar with previous studies done showed that having information on modern contraception, approval of condom use within marriage and discussion about dual protection with family planning provider or partner remained significantly associated with dual protection after adjustment for other factors [4,9]. Therefore this implies that communication about the risk of unintended pregnancy and further STI or HIV/AIDS with partners and health care providers are an important predictor of dual method use for reproductive age women living with HIV during ART follow up.

Of the HIVs related variables whose partner had started HAART, if HIV positive [AOR, (95% CI), 2.16 (1.083 - 4.30)] more likely to utilized dual contraceptive methods which is inline with previous showed that on HAART (AOR: 3.23; 95% CI: 1.49 - 7.01) were more likely to utilize modern contraceptive [9].

Women living with HIV who had not disclosed their HIV status to their family [AOR, (95% CI), 3.15 (1.130 - 8.780)] more likely to utilized dual contraceptive methods as compared to those disclosed their HIV status to their family, but there was no previous study support or oppose this findings while on the contrary there is study finding which revealed that those disclosed HIV serostatus [AOR = 3.9, 95% CI: 1.37 - 11.10] increase their likelihood of fertility desire [1]. And also there is previous study result indicated that reproductive age women who had faced pregnancy since HIV diagnosis [AOR = 2.05, 95% CI: 1.78 - 5.46)] positively associated with dual contraceptive utilization [7]. This may be due to those who had disclosed their status have more discussion on their desired number of children than others and also WLHIV may want to have children to avoid stigma and secrete their status.

The this study identified that of who have had partner 273 (89.8%) about 22.7% were negative/discordant and 24.3% were changed their sexual partner since HIV diagnosis, this is similar with study done in Fitche hospital revealed that 25.6% were changed their sexual partner since HIV diagnosis [1]. This observation could be explained by the fact that, as this study shows it increases risk of new HIV infection and re-infection.

Conclusion

The prevalence of dual contraceptive utilization of women living with HIV in west shoa Hospitals were 59.5% with 95% CI of (54.4% - 64.8%) had dual contraceptives users of which majority, 54.7% were used Depo-Provera in addition to condom. The main reason mentioned for dual contraceptive use, 86.2% were reported that for dual protection (pregnancy/STI/HIV), 4.4% to protect a negative partner, 8.8% advised by health professionals.

Women living with HIV reported that the main reason not used condom were partner objection, feeling it was not comfortable and desired to conceive which account 22.4%, 9.5% and 3.6% respectively.

Of 304 women living with HIV about 43 (14.1%) had ever discontinued contraceptive method in the last 12 months of which 65% were injectable (Depo-Provera).

With regarding to married/cohabited partner which were 273 (89.8%) of which, 22.7% were negative/ discordant and 24.3% were changed their sexual partner since HIV diagnosis.

This study revealed that factors increased utilization of dual method used were marriage length less five years were 3.7 times [AOR, (95% CI), 3.7 (1.82 - 7.526)], discussed dual contraceptive utilization with their partner [AOR, (95% CI), 2.69 (1.227 - 5.901)], informed their husband/partner method of family planning used [AOR, (95% CI), 2.99 (1.354 - 6.60)] and discussed with health care providers about dual contraceptive utilization [AOR, (95% CI), 3.15 (1.130 - 8.78)], not disclosed their HIV status to their family [AOR, (95% CI), 3.15 (1.130 - 8.780)] and partner had started HAART [AOR, (95% CI), 2.16 (1.083 - 4.30)] were some of the factors significantly associated with dual contraceptive utilization.

Recommendation

- Policy makers would be better to consider and plan to increases number of dual contraceptive users among reproductive women living with HIVs.
- Health facilities would better to strengthen integration of PMTCT/ART and family planning services to facilitate dual contracep tive utilization among reproductive women living with HIVs.
- Therefore, Policy makers and Ministry of Health would better to consider and plan to increases number of dual contraceptive users among reproductive women living with HIVs.
- Policy makers and health planners would better give greater attention for integration of dual contraceptive family planning methods with PMTCT/ART clinics.
- Health professionals working in PMTCT/ART clinics would be better to give greater emphases for dual contraceptive utiliza tion counselling in more comprehensive manner with ART treatments to prevent unwanted pregnancy, MTCT and partners' infection/re-infection with new strain including STIs.
- This study identified factors increases utilization of dual method use, therefore these should be used as an important evidence while counselling dual contraceptive utilization and re-considered for reproductive age women living with HIV during Sexual reproductive health and HIV treatment program development.
- Strengthen dual contraceptive utilization counselling and service delivery with special emphasis on the younger age groups.

Competing Interests

The author(s) declare that they have no competing interests.

Authors' Contributions

Dereje Bayissa Demissie and Tolera Gudisa conceptualized the study, designed the study instrument and conducted the data analysis and wrote the first draft and final draft of the manuscript.

DBD and TG: Approved the research proposal with some revisions, participated in data analysis, revised subsequent drafts of the paper and involve in critical review of the manuscript. All authors read and approved the final manuscript.

Acknowledgements

We are grateful to department of Nursing and midwifery staffs for their constructive comments and continuous encouragement starting from topic selection to the development of this research proposal. We also want to acknowledge Ambo University, College of medicine and health sciences for giving us this opportunity.

We grateful for all Mothers attending PMTCT/ART in West Shoa Zone Health Facilities, Data collectors and supervisor for their valuable contribution and support. Last not list to West zone Health office

Bibliography

1. Dereje B., *et al*. "Fertility desire and associated factors among people living with HIV attending antiretroviral therapy clinic in Ethiopia". BMC Pregnancy Childbirth 14 (2014): 382.

2. David L., *et al*. "Correlates of Dual-Method Contraceptive Use by analysis of the National Survey of Family Growth 2006-2008". *Infectious Diseases in Obstetrics and Gynecology* (2012): 717163.

3. Barbara N., *et al*. "Family planning among people living with HIV in post-conflict Northern Uganda: A mixed methods study". *Conflict and Health* 5 (2011): 18.

4. Hope R. "Women's empowerment and HIV prevention-donor experience". Unedited Draft for discussion under item 3ii at the 5th Meeting of the DAC network on gender equality (2007).

5. Addisu P., *et al*. "Modern contraceptive utilization among female ART attendees in health facilities of Gimbie town, West Ethiopia". *Reproductive Health* 11 (2014): 30.

6. Kaida A., *et al*. "Contraceptive Use and Method Preference among Women in Soweto, South Africa : the influence of expanding access to HIV care and treatment services". Plos One 5.11 (2010): e13868.

7. Dereje Bayissa Demissie., *et al*. "Dual Contraceptive Utilization and Associated Factors among People Living with HIV Attending ART Clinic in Fitche Hospital, Ethiopia". *Journal of Health, Medicine and Nursing* 20 (2015).

8. S Marie Harvey and T Henderson. "Protecting Against Both Pregnancy and Disease: Predictors of Dual Method Use Among a Sample of Women". *Women Health* 39.1 (2004): 25-43.

9. Teklu T and Gail D. "Which factors influence North Ethiopian adults' use of dual protection from unintended pregnancy and HIV/AIDS". *Ethiopian Journal of Health Sciences* 22.3 (2008): 226-231.

Volume 8 Issue 4 April 2019