

**Research Article****Utilization and Associated Factors of Modern Contraceptive among Women Attending Art Clinics in Gondar Town, Northwest Ethiopia: Institutional Based Cross Sectional Study****Kahsay Zenebe<sup>\*</sup>, Bilen Mekonen**

Department of Midwifery, College of Medicine and Health Sciences, University of Gondar, Ethiopia

**\*Corresponding author**

Kahsay Zenebe

Email: [kahsay.zenebe@gmail.com](mailto:kahsay.zenebe@gmail.com)

---

**Abstract:** HIV infected women in sub-Saharan Africa are at substantial risk of unintended pregnancy and sexually transmitted infection in developing countries including Ethiopia. Counseling and provision of modern contraceptives choice to HIV infected women including those on antiretroviral Therapy (ART) was an important strategy to prevent unintended pregnancies and reduce mortality and morbidity of under five children and sexually transmitted infections. Little is known about the existing practices and utilization of modern contraceptives among HIV positive reproductive age women attending ART units. The main aim of this study was to assess utilization and associated factors of modern contraceptives among women attending ART clinic. An institution based cross-sectional study was employed. Systematic sampling was used to select 423 study participants. A pre tested and structured questionnaire was used to collect data. The data was entered, cleaned and edited using EPI INFO version 2002 and exported to SPSS version 16.0 software packages for analysis. Both bivariate and multiple logistic regression were fitted and odds ratio and 95% CI were computed to identify associated factors and determine the strength of association. A p-value of <0.05 was considered as statistical significant. Most of the respondents were found between the age of 21-35 years, which account 72.3%. From this age group about 69.5 % of the respondents have used modern contraceptive. The covariates age between 20-35years (AOR 2.69(95%CI 1.5, 4.8)) and mothers whom take less than 30 minute to reach health institution (AOR 2.07(95%CI 1.244, 3.448)), were found to be significantly associated with utilization of modern contraceptives. There was a low utilization of modern contraception in the study area. By expanding health institutions in nearby kebeles can increase utilization of modern contraception among ART clients.

**Keywords:** Modern contraception, ART, utilization.

---

**INTRODUCTION**

Each year, over 600,000 children around the world are infected with HIV through mother-to-child-transmission (MTCT), totaling 2.3 million children living with HIV or AIDS today [1]. The majority of these infections is occurring in sub-Saharan Africa and is acquired from mothers during pregnancy, labor, delivery or breastfeeding. While programs to prevent the transmission of HIV from mother-to-child (PMTCT) are invaluable, they are currently reaching only an estimated five percent of the HIV-positive population instead of working in isolation, these programs should tap into the already existing network of family planning services and programs, achieving wider coverage and reaching more women, couples and infants. Preventing HIV infection among women of childbearing age and helping HIV-positive mothers avoid unintended pregnancies should be the primary emphasis of strategies to reduce MTCT [2].

At the conference in Addis Ababa on 13 November 2013, researchers presented their latest studies on family planning among people living with HIV in Kenya, Tanzania, Zimbabwe and Ethiopia. The five studies presented highlight a lack of information and access to family planning methods. For instance, research among people living with HIV in Ethiopia revealed that, out of 600 participants, half reported not using family planning methods at all [3].

**METHODOLOGY**

Institutional based cross sectional study was conducted among Mothers attending ART clinic in health institutions at Gondar town. The study was conducted in Gondar town which is located in north Gondar, Amhara Regional state Northwest Ethiopia. Gondar is located 745km away from Addis Ababa, the capital of Ethiopia. Gondar town has a total population of 248784(117673 male and 131111 female). Gondar town has two public hospitals and one

private hospital, 8 public clinics and 43 private clinics [4]. The public clinic provides free service for patients routine testing and counseling service, comprehensive HIV/AIDS prevention, treatment and care intervention. The clinics also have family planning clinics. The study was conducted from March to May, 2014.

Women aged from 15-49 years who were attending ART clinics in Gondar town during data collection period were included in the study. Systematic sampling was employed to select study participants from each health institution. By considering average numbers of clients who attend daily during data collection period was estimated based on the previous daily client flow of the units which was obtained by referring client registration book/ record for a month prior to data collection. Using single population proportion formula the final sample size was found to be 423.

Data was collected by face to face interviews using a structured and pre-tested questionnaire. Training was given for both data collectors and supervisors. Data entry was done by using EPI Info 2002 and exported to SPSS version 16.0 software

package for analysis. Multivariate logistic regression was fitted to determine the effect of various factors on the outcome variable. The degree of association between independent and dependent variables were assessed using odds ratio with 95% confidence interval.

Ethical clearance was obtained from Institutional Review Board (IRB) of University of Gondar department of midwifery. Formal letter of cooperation was written for Gondar Woreda Health Department and each health institution. Verbal and written consent was obtained from each study participant.

**RESULTS**

**Socio-demographic characteristics**

Seventy two point three percent of respondents were between the age of 21-35 years with the mean age of 32 years. Most of the respondents 89.6% are orthodox. When we see the marital status majority of the respondents are married, which accounts 46.3%. According to their ethnicity most of the respondents were Amhara (97.2%). Regarding of the occupational status most of the respondents were housewife which accounts (45.2%) (Table1).

**Table1: Socio-Demographic characteristics of respondents, Gondar, Northwest, Ethiopia, 2014**

Variable	Frequency	Percent
<b>Age</b>		
<20	11	2.6
21-35	306	72.3
>35	106	25.1
<b>Religion</b>		
orthodox	379	89.6
Muslim	33	7.8
protestant	10	2.4
catholic	1	0.2
<b>Marital Status</b>		
single	52	12.3
married	196	46.3
divorced	118	27.9
widowed	57	13.7
<b>Occupation</b>		
House wife	191	45.2
Civil servant	38	9.0
Private worker	83	100.0
Daily laborer	101	23.9
Others	10	2.4
<b>Educational status</b>		
Can't write & read	165	39.0
Elementary	120	28.4
Secondary	75	17.7
Higher education and above	63	14.9
<b>Ethnicity</b>		
Amhara	411	97.2
Oromo	1	0.2
Tigray	11	2.6
<b>Residence</b>		
Urban	389	92.0
Rural	34	8.0

**Contraceptive Usage**

Out of four hundred twenty three, 294 (69.5%) have used contraceptive now, from those 150, (51.2%) were using injectable contraceptive. Out of 423 of respondents 129(30.5%) were not using any modern contraceptive methods.

**Sharing results**

Out of 423, 374 (88.4%) respondents were sharing their HIV status, but 49 (11.6%) of respondents were not sharing their HIV status to anyone.

**Factors associated with Contraception**

The covariates age between 20-35 years and mothers whom take less than 30 minute to reach health

institution was found to be significantly associated with low birth weight in multiple logistic regression analysis.

Those women age between 20-35 years were 2 times ((AOR 2.69(95%CI 1.5, 4.8)) more likely to utilize modern contraception than those women age greater than 35. Mothers whom take less than 30 minute to reach health institution had also significant association with utilization of modern contraception. Those women taking less than 30 minute to reach health institution were 2 times (AOR 2.07(95%CI 1.244, 3.448) more likely to utilize modern contraception than their counterparts (Table 2).

**Table 2: Bivariate and multiple logistic regression of selected variables in relation to utilization among (n=423) women attend ART in Gondar Town Health Institution 2014**

Variable	Utilization of modern contraception		COR(95% CI)	AOR(95%CI)
	Yes	No		
<b>Age</b>				
<20	9	2	4.33(0.89, 21.01)	8.678(0.613, 122.7)
21-35	231	75	2.96(1.87, 4.7)	2.69(1.5, 4.8)
>35	54	52	1.0	1.00
<b>Marital status</b>				
Single	33	19	1.17(0.542, 2.54)	
Married	162	34	3.22(1.69, 6.14)	
Divorced	65	53	0.83(0.437, 1.57)	
widowed	34	23	1.00	
<b>Residence</b>				
Urban	276	113	2.17(1.06, 4.4)	
Rural	18	16	1.00	
<b>Time</b>				
<= 30'	165	52	1.89(1.24, 2.88)	2.07(1.244, 3.448)
>30'	129	77	1.00	1.00
<b>Share result</b>				
Yes	266	108	1.84(1.005, 3.394)	
No	28	21	1.00	

**DISCUSSION**

The purpose of this study attempted to asses utilization and associated factors of modern contraceptives among women attending ART clinic.

Out of 423 study subjects 88.2% of women were aware of modern contraceptives higher than that of the study conducted in Malawi [6], this may be due to an increase in the ways of getting information from time to time and made different results at different study time.

In this study, 69.5 % of HIV- positive women were using modern contraceptive methods at time of data collection. This finding is much greater than in the same study done on Tigray (46.3%) [5], Addis Ababa (28%) [3], Rwanda (31%) [7], Malawi (46%) [6]. This might be due to strong counseling efforts of health professionals, others concerning body, knowledge and attitude of the clients towards modern contraceptives

are high in this area. But in line with the report on current uses of modern contraceptives methods study done in Asela Hospital, Oromia, Ethiopia, which estimated 76.5 % [8]. Ours finding also lower than findings from Uganda (85%) [9] and Lesotho (82-86%) [10]. This could be due to high quality and strong integration of sexual and reproductive health services with ART/HIV services in those countries. Modern contraceptives were widely available at free cost in ART treatment units but 30.5 % of women not using modern contraceptives in our findings. But this finding was in line with the study finding in Lusaka, Zambia [11]. This is might be due to lack of awareness towards contraception.

When we see condom user 8.2% and combined with other contraception were found to be 17.0% which is much lower than the study done in Soweto, South Africa [12] and Tigray, 70% [5]. The probable reason might be due to negligence and hates of condom by

male partner during intercourse in this Area and lack of awareness about the effectiveness and proper use of condom.

The results of the present study showed that age, time and knowledge about birth spacing methods were shown to have statically significant with utilization of modern contraceptive methods.

This finding shows that women whose age is 20-35years were more contraceptive *users* than whose age were >35 years, This is in line a research done in Addis Abeba which is Younger age was associated with increased contraceptive use [13]. Time is other risk factor for utilization of modern contraception, women taking less than 30 minute to reach the health institution were two times utilizing modern contraception than women taking greater than 30 minute to reach the health institution. This might be due to lack of transportation and work load.

### CONCLUSION

There was a low utilization of modern contraception in the study area. By expanding health institutions in nearby kebeles can increase utilization of modern contraception among ART clients.

### ACKNOWLEDGEMENT

We are very grateful to the University of Gondar department of midwifery for the approval of the ethical clearance and for their technical and financial support of this study. Then, we would like to thank all mothers who participated in this study for their commitment in responding to our interviews.

### REFERENCES

1. UNAIDS. December 2006 AIDS Epidemic Update. Geneva: UNAIDS.
2. Gray III/ What man et al, 2009/Russia contraception, DMPA.
3. Central Statistical Agency, Ethiopia and ORC Macro. Ethiopia Demographic and Health Survey (EDHS) 2005. Addis Ababa, Ethiopia: Central Statistical Agency, Calverton, Maryland, USA; ORC Macro; 2006.
4. Gondar woreda health office 2013
5. Ethiopia MOH, Single point HIV prevalence estimate, Tigray, 2007.
6. Hoffman IF, Martinson FE, Powers KA, Chilongozi DA, Msiska ED, Kachipapa EI, Tsui AO; The year-long effect of HIV-positive test results on pregnancy intentions, contraceptive use, and pregnancy incidence among Malawian women. *JAIDS Journal of Acquired Immune Deficiency Syndromes*, 2008; 47(4):477-483.
7. Makumbi FE, Nakigozi G, Reynolds SJ, Ndyanabo A, Lutalo T, Serwada D, Gray R; Associations between HIV antiretroviral therapy and the prevalence and incidence of pregnancy in Rakai, Uganda. *AIDS research and treatment*, 2011.
8. Wesenyelesh T; Fertility Desire and Family Planning Demand Among HIV Positive Men and women in Follow Up Care, Grey Literature. 2011.
9. Andia I, Kaida A, Maier M, Guzman D, Emenyonu N, Pepper L, Hogg RS; Highly active antiretroviral therapy and increased use of contraceptives among HIV-positive women during expanding access to antiretroviral therapy in Mbarara, Uganda. *American journal of public health*, 2009; 99(2):340-347.
10. Adair T; Unmet need for contraception among HIV-positive women in Lesotho and implications for mother-to-child transmission. *Journal of Biosocial Science*, 2009; 41(2):269–278.
11. Haddad L, Wall KM, Vwalika B, Khu NH, Brill I, Kilembe W, Allen S; Contraceptive discontinuation and switching among couples receiving integrated HIV and family planning services in Lusaka, Zambia. *AIDS*, 2003; 27:S93-S103.
12. Kaida A, Laher F, Strathdee SA, Money D, Janssen PA, Hogg RS, Gray G; Contraceptive use and method preference among women in Soweto, South Africa: the influence of expanding access to HIV care and treatment services. *PloS one*, 2010; 5(11):e13868.
13. Girum Z; Unmet Reproductive Health Care Needs and Occurrence of Unintended Pregnancy among HIV Positive Women in Antiretroviral Treatment Units in Addis Ababa. 2011.