

DOI: 10.21767/1791-809X.1000558

# Determinants and Status of HIV Disclosure among Reproductive Age Women on Antiretroviral Therapy at Three Health Facilities in Jimma Town, Ethiopia, 2017

Getinet Kassahun<sup>1\*</sup>, Zelalem Tenaw<sup>1</sup>, Tefera Belachew<sup>2</sup> and Makeda Sinaga<sup>3</sup>

<sup>1</sup>Department of Midwifery, Hawassa University, Hawassa, Ethiopia

<sup>2</sup>School of Graduate Studies, Jimma, Ethiopia

<sup>3</sup>Department of Nursing and Midwifery, Jimma University, Jimma, Ethiopia

\*Corresponding author: Getinet Kassahun, Department of Midwifery, Hawassa University, Hawassa, Ethiopia, Tel: +2511911-99-96-24; E-mail: mnch2014award@gmail.com

Received date: 27 February 2018; Accepted date: 27 March 2018; Published date: 04 April 2018

Copyright: © 2018 Kassahun G, et al. This is an open-access article distributed under the terms of the creative commons attribution license, which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited.

Citation: Kassahun G, Tenaw Z, Belachew T, Sinaga M (2018) Determinants and Status of HIV Disclosure among Reproductive Age Women on Antiretroviral Therapy at Three Health Facilities in Jimma Town, Ethiopia, 2017. Health Sci J. Vol. 12 No. 2: 558.

## Abstract

**Background:** Improving HIV disclosure status is significant for reducing HIV prevalent by promoting safer sexual practices, PMTCT, better treatment retention, partner testing and partners to make informed reproductive health choices.

**Objective:** To explore HIV disclosure and associated factors among reproductive age women in health facilities of Jimma Town.

**Methods:** Conducting a facility based cross-sectional design at three health facilities of Jimma town among women on ART from March 5-April 1, 2017. Finally, 338 women were selected by using systematic random sampling technique and interviewed with interviewer administered questionnaire. Epi data version 3.1 was used to enter data then transferred to SPSS to version 20 for analysis of explanatory variables.

**Results:** Out of 337 women responded to the questionnaire, ever disclosure of women to someone was only 290 (86.1%). Still, 47 (13.9%) of them did not disclose. Having free discussion on safer sex [AOR=6.621, 95% CI (1.719-25.498)], being peer counselor [AOR=3.624, 95% CI (1.049-12.522)], being members anti-HIV association [AOR=3.171; 95% CI (1.183-8.501)] and being on ART [AOR=4.559, 95% CI (1.586-13.103)] were predictors of HIV disclosure.

**Conclusion:** The overall magnitude of HIV disclosure was relatively good but nondisclosure is still high in this study. This will be a great fear on HIV transmission. This will continue as major public health burdens in the districts unless future interventions focuses on the factors that

enhance disclosure through peer counselor, free discussion, members of anti-HIV association and on ART.

**Keywords:** Disclosure; HIV; Reproductive women age; Determinants

**Abbreviations:** ART: Anti-Retroviral Therapy; AIDS: Acquired Immune Deficiency Syndrome; AOR: Adjusted Odds Ratio; CI: Confidence Interval; EDHS: Ethiopia Demographic Health Survey; JUSH: Jimma University Specialized Hospital; HIV: Human Immune Deficiency Virus; OR: Odds Ratio; PMTCT: Prevention of Mother to Child Transmission; PLWHA: Patient Living with HIV/AIDS; SPSS: Statically Package for Social Science

## Introduction

About 38.8 million people were living with HIV, 2.5 million were newly infected, and 1.2 million HIV/AIDS deaths globally. Of this Sub-Saharan Africa account 29 million HIV infected people, 1.9 million new HIV infections, and 0.9 million HIV/AIDS deaths in 2015, which is extreme region suffering from problem of HIV infection [1]. Women carry a disproportionate global burden of HIV infection. Ten countries, often in southern and eastern Africa including Ethiopia account for nearly 80% of all people living with HIV [2].

In 2015, 768,040 HIV infected people, 39,140 new HIV infections, and 28,650 AIDS deaths [1]. The trends in new HIV infections has inflated from 23 000 in 2010 to 30,000 in 2016 in Ethiopia [3]. There is large prevalence difference among districts (6.6% in Gambella, 5.0% in Addis Ababa, and 0.7% in Southern Nations, Nationalities and Peoples' region). The HIV epidemic in Ethiopia is primarily associated with areas of urban and major transport corridors. Those living within five kilometers of a major road have HIV rates are four-times higher than those who live further away [4].

In Sub-Saharan Africa, the key route of HIV infection in adults through heterosexual sex and in children through vertical transmission. Early marriage, partner violence, and gender inequality as result high divorce rates and significantly raised rates of HIV prevalence associated with divorce and remarriage [4]. The extremely high HIV prevalence in the region due to the lack of appropriate interventions to protect young women [2]. Moreover, male female differences in sexual debut, age discrepancy sex, multiple partners, low condom acceptance and sexually transmitted infections contribute to young women's susceptibility to HIV [5].

HIV/AIDS disclosure is an important because of the multiple benefits for HIV infected individuals, their partners and the community as a whole in HIV/AIDS prevention [6,7]. HIV disclosure among couples is encouraged as it promotes safer sexual behaviours, lowers HIV transmission, decreases stigma and recommends access to testing and treatment, care and support, PMTCT and it can also encourage partners to make informed reproductive health options [8-10].

Southwest district of Ethiopia involved different ethnic populations and refugee camp, and adds lots of HIV positive patients attending ART clinic in Jimma town public health facilities. Also, Jimma town is nearby Gambella state which is a small and sparsely populated region that has the highest regional HIV prevalence. Still, the rise of the new HIV infections epidemic in Ethiopia is broadly documented. For that reason, this study pursues to provide new evidence on HIV status disclosure and its influencing factors among women aged 15-49 years at three health facilities in Jimma Town. The study included entire health facilities that provide ART services in the Jimma town as result generalizability of results was stronger and it also added the current frequency of HIV status disclosure. Hence, we explored explanatory variables to determine the most significant factors that influence HIV disclosure status among HIV positive women attending ART services in Jimma town public health institution, Ethiopia.

## Methods

A facility based cross-sectional study was conducted in three health facilities of Jimma town which provides ART services (Jimma university specialized hospital, Shenen gibe general hospital and Jimma health center). Jimma town is found in South West Oromia and it is far-away 365 km from capital city of Ethiopia. The main reason to consider these all ART services of health facilities, most people living with HIV/AIDS in Jimma and Gambella districts are attending in these three health facilities of Jimma town. Moreover, a stronger generalizability of results and current frequency of HIV disclosure was also another reason. Currently, Jimma health facilities has given service to 5159 ART users. Of this reproductive age women were 2288. This study was carried out from March 5 to April 1, 2017.

## Sample size and sampling techniques

A single population proportion formula was used to determine the sample size with the assumption of 63.8%

proportion of disclosure, 95% confidence interval, 5% margin of error and 10% of contingency. Total sample size of the study was 338. Sampled respondents from each health institutions was proportional to clients flow enrolled in the health facilities in one month by using prior three month average of client flow. Systematic sampling procedure was used to recruit every kth respondents according to registration of patient flow at each health facilities as sampling frame. Fortunately, the sampling interval was 7 for three health facilities of Jimma town. The first interview client was taken by lottery method then every seventh of patient was selected until required sample size was reached.

## Instrumentation and data collection procedures

A structured questionnaire was adapted from previous literatures and translated in to two local languages (Afan Oromo and Amharic) then back to English language to check internal consistency and amendment of meaning. Four ART nurses who were presently working in the corresponding health facilities were collected the data by face to face interview technique in order to maximize confidentiality and to get full response. A pre-test was carried out among 5% of ART clients in Agaro health center outside of Jimma town but within comparable set up. Amendments were conducted after pretest result analysis. Data quality was controlled by training data collectors and supervisor, using pretest and local language speakers. The principal investigator and supervisors conducted supervision. The consistency and completeness of data were checked on each day.

## Ethical consideration

Ethical clearance was gotten from institutional review board of Jimma University College of public health and medical sciences. A permission letter was gotten from respective facilities by Jimma town Health department office. The purpose, benefits, risk, confidentiality of the study were explained for each client before interview and informed consent was gotten from each respondent.

## Data analysis

Data entry and cleaning was conducted by using EpiData Version 3.1 statistical software and then transferred to SPSS software package version 22 for analyses. Frequency tables, graphs and descriptive summaries were used to describe the study variables and determine the magnitude of HIV disclosure. In bivariate analysis, explanatory variables with p-value of <0.25 were included for multivariable analysis to control confounding factors. P-value of <0.05 with 95% CI was used to reveal as statistical significance.

## Results

### Socio-demographic characteristics of respondents

Out of 338 HIV positive women the response rate was 337(99.7). Majority 174 (51.6) of respondents were found between the age of 15-24 years. The mean and standard deviation of age were 31 (SD  $\pm$  7.5). Majority (49%) of the respondents were married. About (41.8%) of respondent religion were Orthodox followed by Muslim (40.7%) religion. Most (49.3%) of the respondents were Oromo ethnics. About (40.7%) of respondents had attended primary education. Most (30.3%) of the respondents were Daily worker. Majority 287 (85.2) of the respondents were urban area (**Table 1**).

**Table 1** Socio demographic variables of respondents on ART in health facilities of Jimma town.

Socio demographic variable (n=337)	Frequency (Percent)
<b>Age range</b>	
18-24	59(17.5)
25-34	174(51.6)
$\geq$ 35	104(30.9)
<b>Marital status</b>	
Single	73(21.7)
Married	165(49)
Divorced	46(13.6)
Widowed	53(15.7)
<b>Religion</b>	
Muslim	137(40.7)
Orthodox	141(41.8)
Protestant	49(14.5)
Catholic	10(3)
<b>Ethnicity</b>	
Oromo	166(49.3)
Keffa	63(18.7)
Guraghe	14(4.2)
Amhara	58(17.2)
Yeme	12(3.6)
Others*	24(7.1)
<b>Educational status</b>	
Illiterate	92(27.3)
Read and write only	39(11.6)
Primary School(1-8)	137(40.7)
Secondary school(9-12)	52(15.4)

College and University level	17(5)
<b>Occupation</b>	
House wife	79(23.4)
Daily worker	102(30.3)
Government worker	57(16.9)
Merchant	71(21.1)
Others**	28(8.3)
<b>Residence</b>	
Urban	287(85.2)
Rural	50(14.8)
Others*: Tigraye, Dauro, Wolyita Others**: Student, Farmers, Waiter, Jobless	

### Sexual partner characteristics of respondents

Majority 289(85.8%) of the participants had open discussion with partner on safe sex. Most 198(58.8%) of the participants had multiple sexual partners and 139(41.2%) had single sexual partner. More than half, (66.2%) had current sexual partners. Among those who had current sexual partners, 171(76.7%) and 52(23.3%) had steady partner and casual partners, respectively. Among those who had sexual partners, 174(85.7%) knew their partner's HIV status and 157(90.2%) were positive (**Table 2**).

### Medical care characteristics of respondents

The great majority, 289(85.8%) of the respondents had post diagnosis counseling at ART clinic. Most 245(72.7) of the participants got disclosure counseling from peer counselors. Most 226(67.1%) of the participants were member of Anti-HIV/AIDS association. Majority 119(35.3%) of the study participants had stage III of WHO clinical stage at baseline. Out of the total respondents, 261(77.4%) of the respondents were on antiretroviral therapy (ART) (**Table 3**).

### Magnitude of HIV disclosure

Out of the 337 participants 290(86.1%) of them disclosed their HIV positive status to someone and 184(83%) disclosed to their current sexual partner. Though, 47(13.9%) of them didn't disclose. The main reasons of respondents for not disclosing HIV status were fear of stigma and discrimination (57.4%), lack of trust on people (32%) and others (10.6%).

**Table 2** Sexual partner variables of respondents on ART in health facilities of Jimma town.

Variables (n=337)	Frequency (Percent)
<b>Number of life time sexual partners</b>	
Single	139(41.2)
Multiple	198(58.8)
<b>Open discussion on safer sex</b>	

Yes	289(85.8)
No	48(14.2)
<b>Type of sexual partner</b>	
Steady partner	171(76.7)
Casual partner	52(23.3)
<b>Partner's residence</b>	
Urban	186(83.4)
Rural	37(16.6)
<b>knowing partner's HIV status</b>	
Yes	174(85.7)
No	29(14.3)
<b>Partner's HIV status</b>	
Positive	157(90.2)
Negative	17(9.8)

**Table 3** Medical care variables of respondents on ART in health facilities of Jimma town.

Variables (n=337)	Frequency (Percent)
<b>Post diagnosis counseling</b>	
Yes	289(85.8)
No	48(14.2)
<b>Disclosure Counselor</b>	
Peer counselor	245(72.7)
ART care provider	92(27.3)
<b>Member of Anti-HIV association</b>	
Yes	226(67.1)
No	111(32.9)
<b>WHO stage at baseline</b>	
Stage I	68(20.2)
Stage II	108(32)
Stage III	119(35.3)
Stage IV	42(12.5)
<b>Taking ART</b>	
Yes	261(77.4)
No	76(22.6)
<b>Duration of ART</b>	
>1 years	209(80.1)
1 ≤ years	52(19.9)
<b>Suffering from opportunistic infection</b>	
Yes	202(59.9)
No	135(40.1)

<b>Hospital admission</b>	
Yes	131(38.9)
No	206(61.1)
<b>Reason for HIV testing</b>	
Sick	152(45.1)
ANC	70(20.8)
Self-initiative	115(34.1)

### Factors associated with disclosure

The association of factors with HIV disclosure was measured by bivariable and multivariable analysis. After controlling the effect of possible confounding variables, open discussion on safe sex, disclosure counselor, on ART and member of anti-HIV association were strong predictor of HIV disclosure. Women who had open discussion about safe sex were more likely to disclose their HIV status compared to their counterparts (AOR=6.621; 95% CI: 1.719-25.498). Woman with HIV who are working in ART clinic as counselor were more likely to disclose their HIV status when compared to those were ART nurse (AOR=3.624; 95% CI: 1.049-12.522). Women on ART were more likely to disclose their HIV statuses when compared to those were not on ART (AOR=4.559; 95% CI: 1.586-13.103). Women with member of Anti-HIV association were more likely to disclose their HIV status when compared to those who did not have members of Anti-HIV association (AOR=3.171; 95% CI: 1.183-8.501) (**Table 4**).

**Table 4** Shows bivariate and multivariable analysis of factors associated with HIV disclosures on ART in health facilities of Jimma town.

Variables	Status of HIV disclosure		Crude OR (95% CI)	Adjusted OR (95%CI)
	Yes	No		
<b>Disclosure counselor</b>				
Peer counselor	228(93.1)	17(6.9)	6.49 (3.361-12.530)*	3.624 (1.049-12.522)*
ART nurse	62(67.4)	30(32.6)	1	1
<b>Opportunistic infection</b>				
Yes	181(89.6)	21(10.4)	2.06 (1.104-3.830)	2.122 (0.592-7.614)
No	109(80.7)	26(19.3)	1	1
<b>Open discussion on safe sex</b>				
Yes	268(92.7)	21(7.3)	15.08 (7.335-31.012)*	6.621 (1.719-25.498)*
No	22(45.8)	26(54.2)	1	1
<b>Duration of HIV diagnosis</b>				
>2 years	224(88.5)	29(11.5)	2.107 (1.101-4.031)	0.649 (0.201-2.089)

≤ 2 years	66(78.6)	18(21.4)	1	1
<b>Member of HIV association</b>				
Yes	204(90.3)	22(9.7)	2.696 (1.422-5.04)	3.171 (1.183-8.501)*
No	86(77.5)	25(22.5)	1	1
<b>WHO stage at baseline</b>				
Stage III-IV	145(90.1)	16(9.9)	1.937 (1.016-3.696)	0.689 (0.209-2.270)
Stage I-II	145(82.4)	31(17.6)	1	1
<b>On ART</b>				
Yes	242(92.7)	19(7.3)	7.430 (3.841-14.372)	4.559 (1.586-13.103)*
No	48(63.2)	28(36.8)	1	1

\*Statistically significant association p-value <0.05, 1 Referent category

## Discussion

The current study displays that disclosure of HIV status was greater prevalence (86.1%) compared to those who didn't disclose (13.9%) among reproductive age women on ART in health facilities of Jimma town, Ethiopia. This result is consistent with the findings from Ethiopia (Southern region) [11]. However, the current finding was lower when compared to studies conducted in different part of Ethiopia [12-14], Tanzania [15] and Zimbabwe [16]. The possible explanation for this difference might be due to the socio-demographic difference; plus this study includes all health facilities of ART clinics and uses only reproductive age women as study population. In this study, the main reasons of respondents for not disclosing HIV status were fear of stigma and discrimination, and lack of trust on people. This finding is also supported by other studies [15,16].

Participants with members of Anti-HIV association increased the likelihood of disclosure as compared to those who had none. This result is consistent with findings from Ethiopia [12,14]. This might be because these women are expected to have more freedom to reflect their thoughts with followers, and inspire for those psychologically and spiritually to accept HIV disclosure. Women under ART were more likely to disclose their HIV positive sero status as compared to those with not on ART. The finding is consistent with the findings from Uganda and Ethiopia [17,18].

The reason behind this might be due to sharing experience from HIV positive women counselors who are working in chronic HIV/AIDS care unit and interactions of each other during ART follow up; plus initiation of ART after the presence of medical AIDS signs as they couldn't mask their status from the society or it enables to disclose their status. Being trained peer counselor increased the likelihood of HIV disclosure status as compared to ART nurses. This might know HIV status

of peer counselor gives strength to disclose their own HIV status. Having free discussion about safer sex increased the likelihood of HIV disclosure status as compared to those who had none. The reason might be because individual's concerned and committed for health of their sexual partners hence they disclose their HIV status. The strength of this study including all health facilities of Jimma town that provide ART services for southwest district, generalizability of results may be stronger to women attending health facilities at Jimma town and it also explored certain important explanatory variables HIV disclosure.

## Conclusion

This study result showed that the magnitude of disclosure by HIV positive women of reproductive age was higher compared to those who didn't disclose. However, significant number of respondents did not disclose. It is an alarming message for low-income countries; particularly to Ethiopia among the most suffered SSA countries from the HIV epidemic. This will be a great concern on HIV transmission from women to partners, babies and HIV consequences after unintended pregnancy. This will remain to present as major community health burdens unless future interventions targeting on disclosure of HIV status.

## Recommendations

Based on the findings of the study it can be concluded that HIV disclosure had significant association with open discussion on safer sex, member of Anti-HIV association, peer counselor and under ART. For that reason, we would like to recommend that the Jimma town's Health department office in collaboration with peer counselors and anti-HIV associations should focus on increasing the coverage of HIV treatment and encouraging tailored counseling of disclosure in the HIV/AIDS chronic care unit.

## Competent interests

The authors declare no competing interests.

## Authors' contribution

GK designed the study, participated in data collection, analysis, and interpretation and prepared the manuscript. TB, MS and ZT approved the design, participated in data collection,, analysis, interpretation and critical review of the manuscript. All authors read and approved the final manuscript.

## Acknowledgments

We are extremely thankful to Jimma University for accommodating our work. We would like to acknowledge officials of Jimma town Health department office for making accessible the needed data for this study. Finally we also want to recognize study participants who furnished their complete

information and also data collectors and supervisors for their commitment to our study.

### Availability of data and materials

All relevant data are within the paper.

### Funding

This work has been supported by Jimma University for purpose of data collection as for the partial fulfillment of a MSc. Jimma University College of Medicine and health sciences, Department of Nursing and Midwifery was involved in the project through monitoring and evaluation from the initial to final submission of research. However this organization had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript and for publication.

### References

1. Neher RA, Leitner T (2010) Recombination rate and selection strength in HIV intra-patient evolution. *PLoS Comput Biol* 6: e1000660.
2. Carr JK, Salminen MO, Koch C, Gotte D, Artenstein AW, et al. (1996) Full-length sequence and mosaic structure of a human immunodeficiency virus type 1 isolate from Thailand. *J Virol* 70: 5935-5943.
3. Feng Y, He X, Hsi JH, Li F, Li X, et al. (2013) The rapidly expanding CRF01\_AE epidemic in China is driven by multiple lineages of HIV-1 viruses introduced in the 1990s. *AIDS* 27: 1793-1802.
4. Su L, Graf M, Zhang Y, Briesen HV, Xing H, et al. (2000) Characterization of a virtually full-length Human Immunodeficiency Virus Type 1 genome of a prevalent Intersubtype (C/B9) recombinant strain in China. *J Virol* 74: 11367-11376.
5. He X, Xing H, Ruan Y, Hong K, Cheng C, et al. (2012) Group for HIV molecular epidemiologic survey: A comprehensive mapping of HIV-1 genotypes in various risk groups and regions across China based on a nationwide molecular epidemiologic survey. *PLoS One* 7: e47289.
6. Guo H, Guo D, Wei JF, Yang H, Huan X, et al. (2009) First detection of a novel HIV Type 1 CRF01\_AE/07\_BC recombinant among an epidemiologically linked cohort of IDUs in Jiangsu, China. *AIDS Res Hum Retroviruses* 25: 463-467.
7. Ning C, Li X, Tang W, Zhou B, Cai W, et al. (2015) Identification of a novel HIV-1 intra-circulating recombinant form 01\_AE in China: A descendant of the previously identified CRF01\_AE transmission clusters 1 and 6. *Sci China Life Sci* 58: 724-726.
8. Li Z, Li J, Feng Y, Kalish ML, Lu H, et al. (2015) Genomic characterization of two novel HIV-1 unique (CRF01\_AE/B) recombinant forms among men who have sex with men in Beijing, China. *AIDS Res Hum Retroviruses* 31: 921-925.
9. Yan J, Xin R, Li Z, Feng Y, Lu H, et al. (2015) CRF01\_AE/B/C, a novel drug-resistant HIV-1 recombinant in men who have sex with men in Beijing, China. *AIDS Res Hum Retroviruses* 31:745-748.
10. Li Z, Wei H, Feng Y, Li J, Kalish ML, et al. (2015) Genomic characterization of two novel HIV-1 second-generation recombinant forms among men who have sex with men in Beijing, China. *AIDS Res Hum Retroviruses* 31: 342-346.
11. Guo H, Hu H, Zhou Y, Huan X, Qiu T, et al. (2014) The identification of a novel HIV-1 CRF01\_AE/B recombinant using the near full length genome in Jiangsu Province, China. *AIDS Res Hum Retroviruses* 30: 1239-1242.
12. Zhao K, Du J, Zheng W, Yu XF (2014) HIV-1 transmission among injection drug users leads to novel recombinants circulating in southern China. *AIDS Res Hum Retroviruses* 30: 1006-1009.
13. Feng Y, Li X, Zang X, Guo Q, Sun L, et al. (2014) Identification of a novel HIV-1 second-generation recombinant form (CRF01\_AE/CRF07\_BC) in Jilin, China. *AIDS Res Hum Retroviruses* 30: 819-822.
14. Guo H, Hu H, Zhou Y, Yang H, Huan X, et al. (2014) A novel HIV-1 CRF01\_AE/B recombinant among men who have sex with men in Jiangsu Province, China. *AIDS Res Hum Retroviruses* 30: 706-710.
15. Li X, Feng Y, Yang Y, Chen Y, Guo Q, et al. (2014) Near full-length genome sequence of a novel HIV-1 recombinant form (CRF01\_AE/B) detected among men who have sex with men in Jilin Province, China. *AIDS Res Hum Retroviruses* 30: 701-705.
16. Li X, Ning C, Chen Y, Feng Y, Wei M, et al. (2014) Near full-length genome identification of a novel HIV-1 recombinant form (CRF01\_AE/B'/C) among heterosexuals in Jilin, China. *AIDS Res Hum Retroviruses* 30: 695-700.
17. Feng Y, Wei H, Hsi J, Xing H, He X, et al. (2014) Identification of a novel HIV Type 1 circulating recombinant form (CRF65\_cpx) composed of CRF01\_AE and subtypes B and C in Western Yunnan, China. *AIDS Res Hum Retroviruses* 30: 598-602.
18. Hsi J, Wei H, Xing H, Feng Y, He X, et al. (2014) Genome sequence of a novel HIV-1 circulating recombinant form (CRF64\_BC) identified from Yunnan, China. *AIDS Res Hum Retroviruses* 30: 389-393.