

# HIV positive status disclosure and associated factors among HIV positive adults in Axum health facilities, Tigray, Northern Ethiopia

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**Abstract:** Background: Disclosure of HIV positive status to sexual partners, friends or relatives is a main tool for prevention and care strategies. Significant proportions of HIV positive adults never disclose their HIV positive status. Identifying factors associated with disclosure is necessary to freely disclose of HIV positive status result to their sexual partners, parents and friends to achieve a goal 'zero new infection.' Objective: This study was aimed to assess the HIV positive status disclosure and associated factors among HIV positive adults attending in Axum health facilities, Northern Ethiopia. Methods: Institutional based cross-sectional study was conducted from July - August, 2013 in Axum St. Marry hospital and Axum health center. After verbal consent was obtained data were collected by trained counselors and ART nurses using pre-tested structured questionnaire. Data were entered into SPSS version 16 databases. Bivariate and multivariable logistic regression models were used to identify associated factors for disclosure of HIV positive status at 95% confidence intervals and p-value of 0.05. Results: A total of 361 respondents were participated in the study of which gives 99.7% of response rate. The majority (80.1%) disclosed their HIV positive result to at least one person and among currently have sexual partner, 81.2% disclosed to their current sexual partner. marital status of the respondents, [(AOR = 3.70; 95% CI, 1.206 – 11.39)] knowledge of partner's HIV status [(AOR= 3.43; 95% CI, 1.02– 11.5)] and member of Anti- HIV/AIDS association [(AOR = 4.81; 95% CI, 1.01 – 23.05)] had significant association with disclosure of HIV positive status. Conclusion: The rate of HIV positive status disclosure among HIV positive adults still continued to be low. Marital status of respondents, knowledge of partners HIV status, and a member of Anti- HIV/AIDS association were identified as predictors of HIV positive status disclosure.

**Keywords:** HIV Positive Status Disclosure, HIV Positive Adults, Axum Health Facilities

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## 1. Introduction

Globally, an estimated 35.3 million (32.2–38.8) million people were living with immune deficiency virus (HIV) in 2012. Despite the number of people newly infected continues to fall, the number of people living with HIV increased from previous years as more people are receiving the life saving antiretroviral therapy (ART). Sub-Saharan Africa remains most severely affected, with nearly 1 in every 20 adults (4.9%) living with HIV and accounting for 69% of the people living with HIV worldwide [1].

In Ethiopia according to the Single Point Estimate, the adult HIV prevalence was estimated at 2.4% in Ethiopian Fiscal Year (EFY) 2003 (1.9% among males and 2.9% among females). Urban and rural HIV prevalence rates were estimated at 7.7% and 0.9% respectively. The total number of HIV-positive people was estimated at 1,216,908 out of them 397,818 were eligible for ART [2].

The rates of disclosure in studies from developing countries were notably lower than rates reported from the

developed world. The rates ranged from 16.7% to 86%. Among the studies that reported the average rate of disclosure to current sexual partner was 49%, considerably less than the average rate (79%) reported from studies conducted in developed countries [3].

Disclosing one's HIV status to a sexual partner means talking honestly about sexual orientation, possible drug use, and results of test. These are often taboo subjects that are difficult to talk about openly and honestly in most societies of developing countries [4].

Researches done at different times and various setting on the issue of HIV positive status disclosure to sexual partner have revealed that significant proportion of People living with HIV/AIDS (PHAs) do not disclose their sero - status and also ignorant of their sexual partners status [6,9,16,18]. Thus, people continue to be infected from their partners with new type of HIV strain and disregard initiating ART. Even they are on ART may have negative effect on adhering to the treatment, condom use and Prevention of mother to child transmission (PMTCT). Despite this tangible fact, risky sex without disclosure of HIV status is common among people with HIV. The control of HIV infection depends on the success of strategies to prevent new infections and treat currently infected individuals. Hence, investigating into this crucial issue and analyzing the possible factors that could affect disclosure is vital to salvaging Ethiopia from this catastrophic pandemic disease. And will help explore relevant information that decision makers and managers will address the problem and in turn will contribute a lot in achieving a goal "zero new infection".

## 2. Methods

### 2.1. Study Setting

Institutional based cross-sectional quantitative study was conducted from August to September 2013 in Axum governmental health facilities (Axum General St. Mary hospital and Axum health center). These health facilities serve for more than 1.2 million people. Currently above 3558 People living with HIV/AIDS (PHAs) are utilizing in the hospital routine services with 2560 Pre ART and 998 ART care. The Axum health center also provides a service for 156 pre ART & 142 ART [22].

### 2.2. Sample Size and Sampling Techniques

Sample size was determined by using a single population proportion formula, which considers the proportion of HIV positive status result disclosure to sexual partner is 69% [9], with marginal error of 5% at 95% confidence interval. Then by adding 10% non response rate, the final sample size was calculated to be 362. Systematic random sampling procedure was used to select eligible participants from each ART unites. Every "5<sup>th</sup>" HIV positive adults who come for the ART follow-up was selected. Hence, every 5<sup>th</sup> individuals who came to receive pre ART or ART service were selected for the interview until the required sample size was obtained.

### 2.3. Data Collection and Analysis

Data were collected by structured and pre-tested questionnaire which is adopted after reviewing relevant literatures according to objective of the research. The questionnaire was prepared in English first then translated into local language (Tigre) and back to English to assure its consistency.

Data were collected by trained ART and counseling nurses after three days training session was given; this mainly dealt with the purpose of the study, handling ethical issues during data collection, and the method of data collection using the structured questionnaires. Data were entered in to SPSS version 16 statistical software for analysis. Descriptive statistics were used to determine the magnitude of HIV positive status disclosure and reasons to disclosing their HIV positive status. Odds ratios at 95% confidence intervals and P- value 0.05 were used to determine the significance and degree of association between dependent and independent variables. Multiple logistic regression analysis was carried out to see independent effect of each variable on the outcome.

### 2.4. Operational Definitions

HIV positive status disclosure;- The act of informing HIV positive status to any one (sexual partner, parents, families or friends).

Sexual partner; - Is a person with whom one engages in sex acts. They may be regular partner or not.

Regular sexual partner;- Is a sexual partner who lives with that partner in one home or have regular partnership with him/her.

Non-regular sexual partner; - Is a sexual partner who is not married to and never lived with that partner.

Positive outcome of disclosure; - Are those facilitating encourage to disclose HIV positive status.

Negative outcomes of disclosure; - Are those make to conceal HIV positive status like stigma and rejection, divorce, economic dependence.

## 3. Results

A total of 361 HIV positive Adults were interviewed and the response rate was 99.7%. More than half (57%) of the respondents were female. Majority of the respondents were Orthodox Christian 316 (87.5%) and great majority 352 (97.5%) of them were Tigre in Ethnic group. The age of respondents ranged from 19 to 67 years with mean (SD) age of 36 ( $\pm$  8.97) years. Three hundred twenty eight (90.9%) of them were urban residence (Table 1).

One hundred eighty six (51.5%) of the respondents had sexual partners currently among them 144 (39.9) had regular sexual partner whereas, 36 (10%) had non-regular partner. The mean (SD) duration of relationship with sexual partner was 10.13(8.01%) years. Regarding the knowledge of partners HIV status 163(87.6%) of the respondents knew their partner's status, among these 133 (71.5%) said that their partner's were HIV positive, 30 (16.1%) of them were negative and 23(12.4%)

didn't know their partner's HIV status.

**Table 1.** Socio-demographic characteristics of respondents (N=361) among HIV positive adults in Axum health facilities, Tigray, Ethiopia, August 2013.

Variables	Categories	Frequency	Percent
Sex	Male	153	42.4
	Female	208	57.6
Religious status	Orthodox	316	87.5
	Muslim	39	10.8
	Protestant	6	1.7
Educational status of respondents	Unable to read and write	104	28.8
	Primary	162	44.9
	Secondary	66	18.3
Ethnic group of respondents	Higher education	29	8.0
	Tigre	352	97.5
	Amara	9	2.5
Residence of respondents	Urban	328	90.9
	Rural	33	9.1
Marital status of respondents	Single	51	14.1
	Married	177	49.0
	Divorced	83	23.0
	Widowed	50	13.9

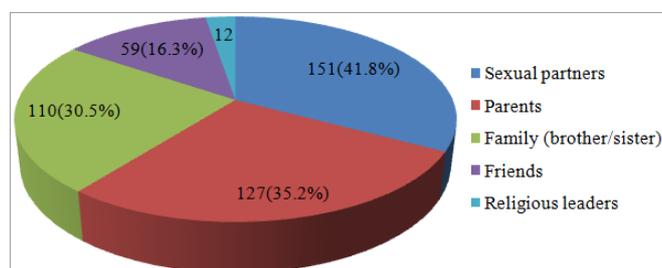
**Table 2.** Health care service related factors for HIV positive status disclosure among HIV positive adults in Axum health facilities, Tigray, Ethiopia 2013(N = 361).

Variables	Categories	Frequency	Percent
Willingly HIV sero status done	Yes	351	97.2
	No	10	2.8
Center of HIV sero status test done	VCT	130	36
	PICT	231	64
ART medication started	Yes	322	89.2
	No	39	10.8
Gets regular counseling	Yes	358	99.2
	No	3	0.8
Membership of HIV/AIDS association	Yes	116	32.1
	No	245	67.9
Substance use	Yes	35	9.7
	No	326	90.3

Among the 361 subjects interviewed, the majority 351(97.2%) did their HIV sero test willingly and two hundred (55.4%) of their tests were done at provider initiative counseling and testing (PICT) center. About 68 % of the participants were not member of anti- HIV/AIDS associations (Table 2).

Among the 361 participants, 289 (80.1%) of them

disclosed their HIV positive status to somebody; while 151(41.8%) disclosed to their sexual partner and 127 (35.2%) disclosed to parents (figure 1).



**Figure 1.** HIV positive test result disclosure among HIV positive adults (N = 361) in Axum health facilities, Tigray, Ethiopia 2013. Multiple responses is possible

Out of 289 respondents who disclosed their HIV positive status; 202 (67%) disclosed within one month, 39 (13.4%) disclosed between 1 and 6 months and 48 (16.6%) disclosed after 6 months of being notified their HIV positive result.

Reasons for non-disclosure among those respondents who did not disclose their HIV positive results to their partner/parents/family (n = 72) were "fear of stigma and rejection" 68 (94.4%), "fear of breach of confidentiality" 44 (61.1%), "fear of shaming to family" 33 (45.8%), "fear of divorce/ separation" 5 (6.9%), "fear of accusation of infidelity" 5 (6.9%), and other reasons presented in figure 2.

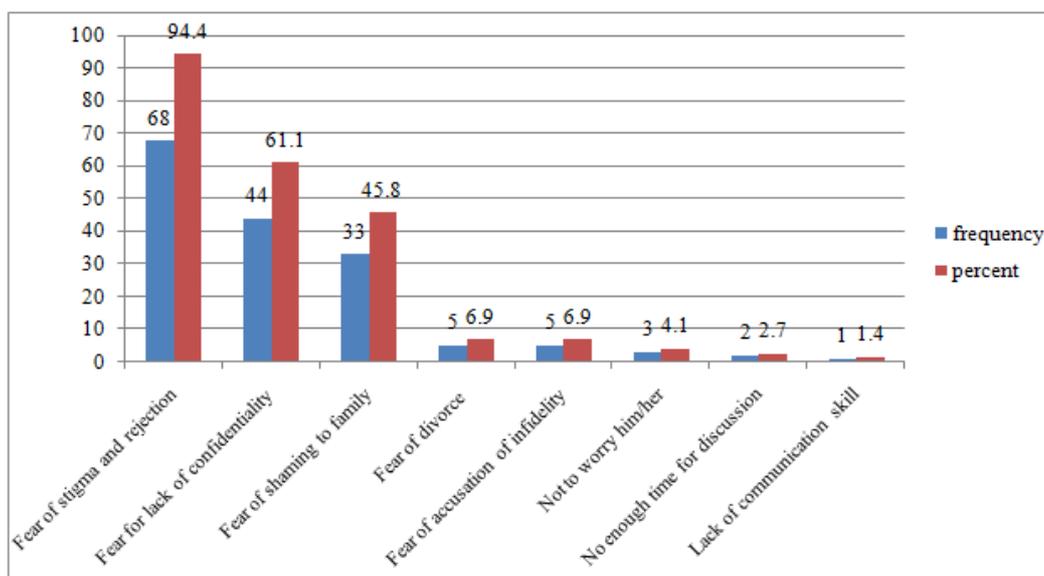


Figure 2. Reasons not to disclose HIV positive results to partner/parent/families among HIV positive adults in Axum health facilities, Tigray, Ethiopia 2013.

#### 4. Determinant of HIV Positive Status Disclosure

On bivariate analysis marital status of respondents, type of sexual partner, ART started, educational status of sexual partner, knowledge of partner’s HIV status, sexual partner’s HIV status, discussion about HIV/AIDS prior test, being membership of Anti- HIV association and use of condom were significantly associated with HIV positive status disclosure [Table 3].

After adjusting variables in the multivariate logistic regression analysis variables significant at p-value <0.05

were; marital status of respondents, knowledge of the partner’s HIV status and membership of Anti- HIV/AIDS association.

Unmarried respondents were 3.7 times more likely to disclose to their HIV positive status as compared to married (AOR = 3.70; 95% CI, 1.206 – 11.39). Respondents who knew their sexual partner’s HIV status were 3.4 times more likely to disclose their HIV positive status as compared to those who did not know their partner’s HIV status (AOR= 3.43; 95% CI, 1.02– 11.5). Participants who are members of Anti- AIDS association were 4.8 times more likely disclose their HIV positive result as compared to those not a member of Anti-AIDS association. (AOR = 4.81; 95% CI, 1.01 – 23.05).

Table 3. Factors independently associated with HIV-positive result disclosure among HIV-positive adults, Axum health facilities, Tigray, Ethiopia, 2013.

Variables	Categories	Disclosure status		COR (95%, CI)	AOR (95%, CI)
		Yes	No		
Marital status of respondents	Unmarried	235	44	2.77 (1.58 - 4.84)	3.71(1.21 - 11.39) **
	Married	54	28	1.00	1.00
Use of condom	Yes	143	15	3.72(2.02- 6.88)	0.40 (0.062 - 2.60)
	No	146	57	1.00	1.00
ART started	Yes	270	61	2.56 (1.16 - 5.66)	2.81 (0.587 - 13.42)
	No	19	11	1.00	1.00
Discussion about HIV before test	Yes	76	6	3.93(1.64 - 9.42)	1.42 (0.38 - 5.33)
	No	213	66	1.00	1.00
Types of partnership	Regular sexual partner	128	9	2.77(1.01 – 7.66)	0.92 (0.13 - 6.62)
	Non regular sexual partner	41	8	1.00	1.00
Knowledge of partner’s HIV status	Yes	152	11	4.87 (1.60 - 14.85)	3.43 (1.021 - 11.54)**
	No	17	6	1.00	1.00
Sexual Partner’s HIV status	Positive	125	8	3.2 (1.16 – 8.796)	1.31(0.297 – 5.77)
	Negative	44	9	1.00	1.00
Membership of HIV association	Yes	109	7	5.62 (2.49 - 12.71)	4.81 (1.004 - 23.05)**
	No	180	65	1.00	1.00

\*\* Variables significantly associated at P< 0.05

## 5. Discussion

Disclosure of HIV positive result enables individual to practice safer sex to make informed options preventions that may ultimately lower the number of newly infected, and even to reduce the risk of HIV transmission from mother to child and to take medications properly.

It also prevents HIV infection of the sexual partner with a discordant sero-status. For instance 30 (16.1%) of the respondents in this study their sexual partners were HIV negative.

In this study, the rate of HIV positive status disclosure to at least one person is 80.1%. The finding is lower than the study done in Hawasa referral hospital, Ethiopia which is 92.2%, in Jimma University referral hospital, Ethiopia, which is 94.5% and in kemissie district, north east Ethiopia that is 93.1% of the respondents disclose their HIV positive status [7, 8, 11].

The reason could be the study subjects from Jimma and Hawasa University Hospitals might get adequate HIV related information easily than Axum health facilities as they are teaching hospitals which are equipped with skilled man power. Besides to this, it might be also due to socio demographic characteristics difference between the study subjects.

Seventy two (19.9%) of the respondents did not disclose their HIV positive status to anyone.

Some of the reasons for non disclosure in this study were fear of stigma and rejection, fear of breach of confidentiality, fear of shaming to families/ parents, and fear of divorce; which is consistent with the studies carried out elsewhere in Ethiopia [6, 8, 11]. These reasons are also similar to studies done in different developing countries like Uganda, South Africa, Tanzania and Djibouti [10, 15, 17, 24].

Concerning disclosure to one's sexual partner, this study confirms that most participants have disclosed their HIV positive status to their sexual partner (81.2%): only 18.8% of the HIV positive adults who have sexual partner did not disclose their HIV status to their sexual partner. This report is higher than figures reported in Kemissie (6.9%) [8], and (7.6%) and Jimma (9.8%) [7], and slightly lower than studies from Woldia (23.3%) [6] and South Africa (21%) [18].

In multivariate analysis, it was observed that marital status of the respondents, knowledge of partners HIV status and membership of anti- HIV/AIDS association were independently associated with disclosure of HIV positive Status.

Unmarried respondents were more likely to disclose their HIV positive status compared to married one (AOR = 3.706, 95% CI, 1.206 – 11.388). This finding is contrary with other studies done in Hawasa [9]. This might be due to the fact that married individuals have fear of being blamed of one over another on who first acquired the infection and may lead to disagreement and divorce of couples. As a result they prefer not to disclose their HIV positive status than the outcome consequences.

Knowledge of partner's HIV status was found to be a predictor of HIV positive status disclosure; which is 3.43 times more likely to disclose their HIV status as compared to

those who did not know their partner's HIV status.(AOR = 3.43, 95% CI 1.02 – 11.5). This agrees with what others reported [8, 11]. Majority of the respondents (81.6%) had similar HIV positive status with partner. This might help them to have open communication and freedom to disclose.

Respondents who were a member of Anti- HIV/AIDS association were more likely to disclose their HIV status as compared to counterpart. (AOR = 4.81, 95% CI, 1.01 – 23.05). The finding is in line with the study done in kemissie [8]. This could be individuals who were a member has frequent discussion related to HIV and they feel first to bring behavioral changes.

## 6. Conclusions

The rate of HIV positive status disclosure among HIV positive adults still continued to be low. Reasons for non-disclosure among those respondents who did not disclose their HIV positive status to their partner/parents/families were; fear of stigma and rejection, fear of breach of confidentiality, fear of shaming to family, fear of divorce (separation) and fear of accusation of infidelity. Marital status of respondents, knowledge of partners HIV status, and member of Anti- AIDS association were identified as predictors of HIV positive status disclosure.

Adherence and disclosure counselors should give stress to married couples counseling to disclose their HIV positive status to think their partner's health status. Anti- HIV/AIDS associations and supporting group associations should be strengthen and get support in material and moral to be sustainable in their work.

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## Authors' Contributions

HB, WA, MB and MG designed the study, analyzed the data, drafted the manuscript and critically reviewed the article. All authors read and approved the final manuscript.

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