

## Original Article

# Prevalence of Anxiety Disorder and Associated Factors among Voluntary Counseling and HIV Testing Clients at Governmental Health Centers in 2017 in Addis Ababa, Ethiopia

Abdissa Boka Dirriba

### Abstract

**Objective:** More than 450 million people are considered to be suffered from mental problem in the world nowadays. In Ethiopia, these problems constitute for 12.45% of the impact of diseases and around 12% of individuals are estimated to be develop any form of mental problems, of which 2% are severe cases. One of the most psychiatric problem that cause substantial functional impairment and suffering is anxiety disorders.

To assess the prevalence of anxiety disorder and associated factors among voluntary counseling and HIV testing (VCT) clients of Addis Ababa governmental health centers, Ethiopia, 2017.

**Method:** An institutional based cross-sectional study was conducted at Addis Ababa governmental health centers from February 15 to March 10, 2017. A Cluster sampling technique was used and 770 study participants were interviewed. Data were entered into EPI INFO version 2002 and transferred to SPSS version 19.0 windows and was analyzed. The logistic regression of analyses was used.

**Results:** The prevalence of anxiety disorder among VCT clients was 39.2%. Factors that statistically significant with an anxiety disorder: fear of stigma or social discrimination (AOR = 3.01, 95%CI: 1.67, 5.42), history of haven't been tested before for HIV (AOR = 3.97, 95%CI: 2.32, 6.81), and fear of having a positive result (AOR = 2.60, 95% CI: 1.55, 4.36); the burden of family size was marginally significant at 0.05 level of significance (P = 0.075).

**Conclusion:** The prevalence of anxiety problems among voluntary counseling and HIV testing clients of Addis Ababa governmental health centers was high. Fear of stigma, fear of having a positive result, and no history of a test before were the most factors associated with anxiety disorders. I recommended that increasing awareness in reducing stigma/discrimination, appropriate psychiatry counseling for individuals and community at the health center, and Addis Ababa Health Bureau should be arranged.

**Key words:** *Anxiety Disorder; Counseling; HIV; Mental Disorders; Social Stigma*

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**M**ore than 450 million people are considered to be suffered from mental problem in the world nowadays (1, 2). Priority is given for nutritional problem and infectious disease than mental problem in developing countries. Even though, mental problem is not considered as life-threatening condition in developing countries, it is significantly as common as in developed countries (3). The two types, anxiety and depression are considered as globally, the second most impact and disability causing problem by 2020 (4).

Anxiety is a primary psychological ailment, which has a robust association with fast disease progress (5). It is one of the most widespread mental problem in all segment of people with women are affected two times of men. People may feel anxiety when they are refacing an important event, such as a job interview, or when they perceive some threat or dangerous activity (6). Anxiety reaction is a chronic and resistant to treatment type of problem (7). Anxiety is one of the most frequent symptoms of persons living with HIV disease and it has a considerable impact on the enduring treatment and manifestation of HIV (8, 9).

In Ethiopia, these problems constitute for 12.45% of the impact of diseases and around 12% of individuals are estimated to be develop any form of mental problems, of which 2% are severe cases (10). From Jimma University study, the magnitude of anxiety among University students was 41% (9).

People living with HIV/AIDS (PLWHA) might experience anxiety at the time of recognition, inception, or progression of HIV/AIDS infection. PLWHA are more expected to experience a feeling of acute emotional distress, and anxiety because of adverse life-events. Women who suffered on crises like loss of a loved one, showed anxiety, hopeless, and more mourning than men. Hence, proper integration of mental health care into voluntary counseling and HIV testing (VCT) will support the caregiver in helping persons with HIV/AIDS to manage their anxiety symptoms and to give patients holistic care (8-15).

The two type of anxiety common among newly diagnosed HIV clients are post-traumatic stress disorder and acute stress disorder. VCT service providers should be attentive in the period of subsequent to diagnosis to support, and manage stress and depressive symptoms secondary to the diagnosis. The management for HIV-positive people is influenced by the anxiety reactions like panic disorder, depressive disorders and posttraumatic disorders. These remained altogether, and rise patients' perceptions of embarrassment, decrease adherence to highly active antiretroviral therapy (HAART) treatments. Low social support and increased isolation is more common among older people living with HIV/AIDS which is best addressed by psychotherapeutic support (9, 16).

The study done at Lebanese Evaluation of the Burden of Ailment and Needs of the Nation (LEBANON) as

revealed, 25.8% of adult population had at least one life time problem of the text revisions of the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) and 17% had at least one 12-month disorder. The lifetime and 12-month magnitude of mood and anxiety disorders was 12.6% and 16.7%, and 6.6% and 11.2% respectively (16).

In Pakistan community, the general prevalence of anxiety and depressive disorders was 34% which was more common among female than males. Even though, high incidence of anxiety and depression at the Pakistan community level resulted, no comprehensive measurement for treatment of this problem was designed. As the report of four developing countries, anxiety and depression prevalence was 13.9%. Study at the community level of Africa like rural Uganda and South Africa have reported 24% and 20%-24% of anxiety and depression prevalence respectively. The prevalence of Anxiety for those attending primary health care was wide-ranged from 8% to 29%. In India the prevalence at primary health care ranged between 21% and 57% (17).

The study conducted on major mental disorders in Ethiopia indicates phobia is one of the leading anxiety disorders, with a lifetime prevalence of 4.8% and other anxiety disorders to be 2.7% (11). PLWHA are more vulnerable to develop a variety of mental disorders like mood, emotions, and behavior. People with HIV and those who care for them have the feeling of acute psychological reaction that can frequently cause negative life consequences (18).

Among PLWHA the magnitude of anxiety disorder was 38% and Women with HIV infection more likely vulnerable to anxiety disorders. Once women are diagnosed to HIV-positive status, they are vulnerable to high incidence of posttraumatic stress disorder (PTSD) (42%), and trauma-related problems that need timely screening and designing the right treatment modality (19,20).

Different studies in different countries indicate that there was high anxiety prevalence among VCT at the community. In the USA, India, and Nigeria the prevalence of anxiety was 38%, 36%, and 21.7%, respectively, in PLWHA (8, 12, 13). Though there is no anxiety prevalence estimate for VCT clients in Ethiopia. Anxiety may influence utilization of VCT, which might have an impact on the management of HIV-positive individuals by increasing patients' perceptions of pain, decreased adherence to highly active antiretroviral therapy (HAART) regimens, and particularly exert impact on elders because of loss of social support (9, 10).

In Ethiopia, HIV counseling services began in the late 1980s with service expanding throughout the 1990s. There are more than 500 VCT centers in Ethiopia (21). The existence of an anxiety reaction for those HIV test seekers, specifically retest seekers, possibly AIDS-anxious people, shows that further counseling is needed.

For those who know timely their status, there is good awareness and controlling activities from the propagating of the diseases and entry point for treatment, care, and support. VCT provides additional training for assessing any form of emotional reaction for HIV test seekers and design service-based interventions (22). Despite the expand of service and potential benefits of VCT, its utilization is poor, regardless of the availability of the service in Ethiopia (11-13). To prevent HIV/AIDS and decrease HIV/AIDS related anxiety and associated factors among voluntary counseling and HIV testing clients, increasing VCT acceptability of service is inevitable. Nevertheless, many clients face anxiety in the utilization of VCT. Multiple factors such as sex, age, religion, ethnicity, occupation, monthly income, and marital status may affect the level of anxiety of VCT (8,11,19,21-25), and status of the participants, such as session type, family size, fear of stigma/ discrimination, duration of a delay from the test, fear of having positive test result, chronic health problems, history of the test before, and history of partner/spouse test (12,21,23,26-27). However, no study on the prevalence of anxiety and influencing factors among VCT clients in the study area. Therefore, the objective of this study was to assess the prevalence of anxiety disorder and associated factors among voluntary counseling and HIV testing clients of Addis Ababa governmental health centers, Ethiopia. Finally, the study was aimed to achieve the following :

1. Provide information for planners and decision-makers of VCT service provider.
2. Help measure the prevention of associated factors of anxiety problems so that VCT users can effectively manage their lifestyle.
3. Provide information for mental health planners, managers, and implementers for possible interventions.
4. Provide a baseline for interested researchers for further investigations.

## Materials and Methods

### *Study design, Period and setting*

The institutional based cross-sectional study design was conducted from February 15 to March 10, 2017, at Addis Ababa the capital city of Ethiopia, with a catchment area of 54 000 hectares. According to the revised city governance charter proclamation No. 311/2002, there are 10 sub cities, 116 districts. There are 84 health centers (HC) in 10 sub cities of Addis Ababa in 2014 as evidenced from Ethiopian service provision assessment and census. From the 10 sub cities, 3 sub-cities with their all-health centers (Gulalie 8 HC, Kolfe keranio 6 HC, and Addis ketema 6 HC) were randomly selected.

### *Inclusion Criterion*

Clients of above 18 years who were a user of voluntary counseling and HIV testing service at the government health centers during data collection .

### *Exclusion Criterion*

Clients who were with difficulty of hearing and incoherent speech because of mental problem .

### *Sample Size Calculation and sampling procedure*

A single population proportion formula was used to calculate the sample size (n) with 95% confidence and proportion of anxiety disorder among VCT (50%) and a precision of 5% between the sample and the parameter.

$$n = (Z\alpha/2)^2 \frac{p(1-p)}{d^2} = 384$$

Some basic assumptions of the sample size determination

The level of confidence,  $\alpha = 0.05$  (95%) = 1.96.

P = 50 % because no previous study

d2 = the degree of precision = 0.05 (5%)

Non-response = 5% = 19

n = 384 + 5% (19) = 403 → Cluster sampling has Design effect, 403x2=806

To address 806 study participants, a 2-stage cluster sampling technique was used. By simple random sample, 3 sub cities were selected from 10 sub cities and second stage cluster sampling was systematic random sampling to interview clients at 20 health centers of the VCT unit of the 3 sub cities .

### *Data Collection Instrument and procedures*

The validated tool to collect data was the Beck Anxiety Inventory (BAI-II) 21 items. The cut point for individuals with anxiety problems was > 22-point score without emphasizing a mild form of anxiety disorder because it is the usual problem without causing significant clinical distress, occupational, and functional impairment. The moderate form of anxiety disorder with a Grand sum between 22– 35 score and the severe form of anxiety disorder with a grand sum of > 36 scores was considered for anxiety disorder assessment. Closed-ended questions for sociodemographic factors and measurements for anxiety disorder in relation to voluntary counseling and HIV/AIDS testing information were included. Interview administered technique was used to collect the data. Six bachelor's degree nurses were hired to collect data from participants after the testing for assessment of anxiety disorders. Those professionals collect data after receiving 2 days of training on the objective of the study .

### *Data Analysis*

The coded variables were entered into EPI INFO version 2002 and transferred to SPSS version 19.0 window. The logistic regression was used and different models were fitted for the outcome variables in relation to each explanatory variable. Based on the minimum requirement with 0.2 level of significance, variables that fulfil the criteria were entered into multivariate logistic analysis .

### *Data Quality Assurance*

A validated, standard tool of questionnaire was carefully prepared by English and translated into local languages

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by 2 language experts and back translated into English. A pretest was done before actual data collection on about 40 (5%) of respondents who were not included in the main survey at 2 health centers of Bole sub city who were attending their VCT center at before they left the center. During the pretest, the questionnaire was checked for its clarity, reliability, understandability, and coherency before actual data collection.

### *Ethical Approval and Consent*

Ethical approval was by Institutional Review Board of the joint program of Gondar University and Amanuel Mental Specialized Hospital. Then, a formal letter of cooperation was written to Addis Ababa Health Bureau. Finally, written informed consent was obtained prior to the interview. Participants' privacy and confidentiality of the information were maintained by the declaration of Helsinki.

## Results

### *Sociodemographic Characteristics of the Study*

#### *Participants*

From the total of 806 sample, 770 completed the questionnaire that makes 95.5% response rate. The age of the respondents ranged between 18 to 52 years, with the mean age of  $27.3 \pm 6.3$  standard deviation of years. Among the total respondent, 466 (60.5%) were female; 323 (41.9%) were married and living together; more than one-third of the respondents (285; 37.0%) were Amhara in ethnicity. Regarding educational status, 330 (42.9%) of the respondents had high school diploma; half of the respondents (399; 51.8%) were Orthodox; more than half of the respondents (411; 53.4%) had nongovernmental occupational status; and monthly personal incomes of 372 (48.3%) respondents were less than 420 Ethiopian birrs (Table 1).

#### *Status of Study Participants*

Of the total participants, 597 (77.5%) were individually presented for tests, whereas 113 (14.7%), 39 (5.1%), and 21 (2.7%) of the respondents were presented by couples, group, and fiancé/ fiancées, respectively. Among those having family members, 233 (46.1%) were living with 3 to 5 members. Also, 548 (71.2%) were free from fear of stigma or discrimination and 222 (28.8%) felt stigma or discrimination for positive test results. Because of stigma/ discrimination fear, 136 (60.8%) delayed the test for more than 6 months. More than half of the respondents (406; 52.7%) were free from the fear of having a positive test result. Also, 438 (56.9%) were tested before, and among the married couples (218; 47.9%) were tested. Of the respondents of marked chronic health problem, 60 (50%) had a respiratory problem (Table 2).

### *Prevalence of Anxiety Disorder among Voluntary Counseling and HIV Testing Clients of Governmental Health Centers in 2017 in Addis Ababa, Ethiopia*

The overall prevalence of anxiety was 302 (39.2%). Based on Beck anxiety inventory criteria of anxiety, the proportion of severe, moderate, and mild anxiety of respondents was 70 (9.1%), 232 (30.1%), and 468 (60.8%), respectively. Among these, 302 (39.2%) fulfilled the diagnostic criteria for anxiety disorder (Figure 1).

### *Factors that Associated with Anxiety Disorders among Voluntary Counseling and HIV Testing Clients at Governmental Health Centers in 2017 in Addis Ababa, Ethiopia*

In this regard, fear of having a positive result, fear of stigma or social discrimination, and chronic health problems were reported by 365 (47.4%), 222 (28.8%), and 120 (15.6%), of the participants, respectively. Having a high school (AOR = 2.25; CI=1.11,4.57; P = 0.026) and college/university (AOR = 2.70; CI = 1.12,6.51; P = 0.023), fear of a positive result (AOR = 2.60; CI:1.56,4.36; P = 0.001), fear of stigma or discrimination (AOR = 3.01; CI = 1.62,5.42; P = 0.001), no history of giving a test before (AOR = 3.97; CI = 2.32,6.81; P = 0.001), and chronic health problems were factors leading to anxiety disorder (AOR = 1.59 95% CI: 0.91, 2.79) and were positively associated with the of anxiety disorder of the voluntary counseling and HIV testing clients .

Age of respondents and being married was significantly associated with anxiety disorder (P < 0.001) for both (Table 3).

### *Bivariate and Multivariate Analysis*

From the bivariate analyses of anxiety disorder in association with each independent variable, 10 variables (age, educational status, income per month, marital status, family size, fear of stigma/discrimination, fear of having a positive test result, chronic health problem, history of a test before, and history of partner test before) are satisfied the minimum level of significance (0.2) for multivariate logistic analysis. On the other hand, 1 variable (sex) was not significant at 0.2 level of significance, and hence excluded from further analysis. Variables like ethnicity and religion were sensitive to consider for further analysis. However, the occupation of respondents was included under monthly personal income and was not further analyzed .

During the multivariate analysis of anxiety disorder with respect to predictor variables, fear of stigma /discrimination, fear of having positive test result, and history of giving a test before were the 3 statistically significant and independently associated with the anxiety disorder; while the family size was marginally significant (at 0.05 level of significance).

**Table 1. Sociodemographic Characteristics Respondents at Governmental Health Centers in 2017 in Addis Ababa, Ethiopia**

Characteristics	Frequency (n = 770)	Percentage
<b>Sex</b>		
Male	304	39.5
Female	466	60.5
<b>Age</b>		
18-22	168	21.8
23-27	287	37.3
28-32	160	20.8
>33	155	20.1
<b>Religion</b>		
Orthodox	399	51.8
Muslim	225	29.2
Protestant	124	16.1
Catholic	13	1.7
Others	9	1.2
<b>Ethnicity</b>		
Oromo	157	20.4
Amhara	285	37.0
Tigre	67	8.7
Gurage	197	25.6
Others	64	8.3
<b>Occupation</b>		
Jobless	171	22.2
Governmental	91	11.8
Non-governmental	411	53.4
Student	97	12.6
<b>Income per month</b>		
<420	372	48.3
420-1233	270	35.1
>1233	128	16.6
<b>Marital status</b>		
Single	294	38.2
Married and living together	323	41.9
Married & living separately	65	8.4
Divorce	41	8.4
Widowed	47	6.1

**Table 2. Distribution of Participants by Family Size and Information on Voluntary Counseling and HIV Testing at Governmental Health Centers in 2017 in Addis Ababa, Ethiopia**

Explanatory Variable	Options	Frequency (n)	Percentage (%)
Session type (n=770)	Individual	597	77.5
	Couples	113	14.5
	Group	39	5.1
	Fiancé/ Fiancées	21	2.7
Family size (n=476)	One –two	50	10.5
	Three –five	311	65.3
Fear of stigma/ discrimination (n=770)	Greater than or equal to six	115	24.2
	Yes	222	28.8
Because of fear of stigma / discrimination duration of delay from test (n=222)	No	548	71.2
	<1 month	25	11.3
	1-3 months	26	11.7
	4-6 months	36	16.2
Fear of having positive test result (n=770)	>6 months	135	60.2
	Yes	364	47.3
Chronic health problems (n=120)	No	406	52.7
	Respiratory problem	60	50.0
	Cardiovascular problem	23	19.2
	Endocrine problem	10	8.3
	Genitourinary problem	11	9.2
	GIT problem	10	8.3
	Others	6	5.0
History of test before (n=770)	Yes	438	56.9
	No	332	43.1
History of partner / Spouse test (n=476)	Yes	211	44.3
	No	174	36.6
	I do not know	91	19.1

**Table 3. Factors that Associated with Anxiety Disorders among Voluntary Counseling and HIV Testing Clients at Governmental Health Centers in 2017 in Addis Ababa, Ethiopia**

Explanatory Variable	Anxiety Disorder		P Value	(COR, 95%CI)	(AOR, 95%CI)
	Yes (n)	No (n)			
<b>Age</b>			0.001		
18-22	51	117		1.00	1.00
23-27	99	188	0.365	2.21(0.80,1.82)	1.07(0.40,2.86)
28-32	79	81	< 0.001	2.24(1.42,3.52)	1.54(0.57,4.18) **
≥ 33	73	82	0.002	2.04 (1.30,3.22)	1.22 (0.45,3.32) **
<b>Educational status</b>			0.143		
Cannot read and write	41	64		1.00	1.00
1-6 grade	92	134	0.202	0.70 (0.41,1.21)	1.97 (0.97,3.90)
7-12 grade	117	213	0.026	0.75 (0.48,1.19)	2.25 (1.11,4.57) *
College/University	52	57	0.023	0.60 (0.39,0.93)	2.70 (1.12,6.51) *
<b>Family size</b>			0.075		
One-two	33	17		1.00	1.00
Three–five	129	182	0.120	1.72 (0.86,3.43)	0.49 (0.22,1.08)

Prevalence of Anxiety Disorder and Associated Factors

≥six	61	54	0.510	0.63 (0.41,0.97)	0.82 (0.32,1.92)
<b>Marital status</b>					
Never married	79	215		1.00	1.00
Ever married	223	253	<0.001	0.42 (0.30,0.57)	1.62 (0.63,4.18)
<b>Income per month (Eth. Birr)</b>					
			0.119		
<420	133	239	0.052	0.67 (0.45,1.01)	0.64 (0.32,1.30)
420-1233	111	159	0.429	0.84 (0.55,1.29)	1.02 (0.53,1.96)
>1233	58	70		1.00	1.00
<b>Fear of having positive result</b>					
Yes	212	153	<0.001	4.85 (3.55,6.63)	2.60 (1.56,4.36) **
No	90	315		1.00	1.00
<b>Fear of stigma /Discrimination</b>					
Yes	154	68	<0.001	6.12 (4.35,8.62)	3.01 (1.62,5.42) **
No	148	400		1.00	1.00
<b>History of test before</b>					
Yes	103	335		1.00	1.00
No	199	133	<0.001	0.21 (0.15,0.28)	3.97 (2.32,6.81) **
<b>History of partner test before</b>					
Yes	60	151		1.00	1.00
No	102	72	<0.001	3.57 (2.33,5.45)	1.43 (0.83,2.52)
I don't know	61	30	<0.001	5.12 (3.01,8.69)	1.46 (0.72,2.97)
<b>Chronic health problem</b>					
Yes	71	49	<0.001	2.63 (1.77,3.91)	1.59 (0.91,2.79)
No	231	419		1.00	1.00

For variables having more than 2 categories, the overall significance is given by their corresponding P values, 1.00 = reference, \*\*P < 0.001, \*P < 0.05, COR=Crude Odds Ratio, AOR= Adjusted Odds Ratio

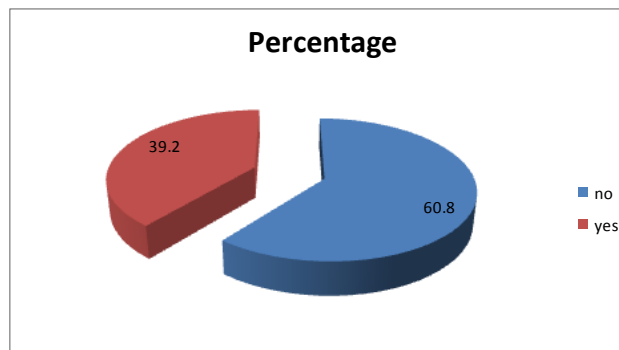


Figure1. Prevalence of Anxiety Disorder. The Prevalence of Anxiety Disorders among Voluntary Counseling and HIV Testing Respondents at Governmental Health Centers in 2017 in Addis Ababa, Ethiopia

Discussion

From this cross-sectional study, the prevalence of anxiety and associated factors among voluntary counseling and HIV testing clients of Addis Ababa governmental health centers, Ethiopia, I found the overall prevalence of anxiety disorder to be 302 (39.2%). Based on the Beck's Anxiety Inventory scoring system, the proportion of severe, moderate, and mild anxiety problem of respondents was 70 (9.1%), 232 (30.1%),

and 468 (60.8%), respectively. The age interval of study participants ranged between 18 to 52 years, with the mean age of 27.3 ± 6.3 standard deviation of years. Of the total participants, 39.20% had anxiety. This high prevalence of anxiety at VCT can have an impact on the client to give the test. Due attention is necessary because by 2020 anxiety and depression are the most public psychiatric illnesses and consequence in substantial functional impairment and suffering (7, 25).

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This prevalence was greater than the findings of the studies done in the Lebanese (16.7%), Pakistan (34%), USA (38%), India (36%), and Nigeria (21.7%) (8, 12-13, 16-17). However, the prevalence in this study was less than that in the study conducted at Jimma University students, which was 41.0% (9). However, the prevalence of mental distress in this finding was greater than the research conducted before in Ethiopia by a community survey, which estimated the general mental distress to be 12% to 23.9% (1). As the study conducted on major mental disorders in Ethiopia indicated, phobia is one of the leading anxiety disorders, with a lifetime prevalence of 4.8% and other anxiety disorders to be 2.7% (11). It is less than the prevalence of this study because on that major mental disorders study, phobic anxiety disorder was studied independently as 1 disorder. However, in this study, all anxiety disorders were studied under 1 category criteria.

Among PLWHA the magnitude of anxiety disorder was 38% (19), which was almost like the finding of this study. From all study participants, 769 (99.9%) who reported anxiety disorders with at least 1 symptom, only 302 (39.2%) fulfilled the diagnostic criteria for anxiety disorder (according to the Beck Anxiety Inventory Criteria).

This study found that educational status, fear of having a positive result, fear of stigma or discrimination, and history of HIV test have a strong association with the anxiety disorder. Chronic health problems, in general, increased the presence of anxiety, as supported by DSM-IV (25). Compared to respondents who could not read and write, those who had the educational status of high school and above had 2 and 3 times more anxiety, respectively, at a time of VCT. Previous studies have also shown the influence of higher educational status on the level of anxiety (22, 26). As respondents' educational level increases, the level of anxiety also increases.

This study revealed that respondents who had not a fear of having positive results were more protective than those who were afraid of having positive results. This verifies with a previous study conducted in other settings (19, 23, 26, 28, 30). This may be linked to the attitude of the respondents who had previous risky sexual behaviors. The result found in this study indicates that those respondents who had fear of stigma or social discrimination were three times more likely to have anxiety than those who had not been with fear of stigma. This finding was similar to the result of other studies (19, 23, 30). This fact somewhat describes, as the fear of stigma causes an impact on the psychology of respondents, while they think more about the isolation, loss of social support, and decreased social relationships. Those who had been known to be individually stigmatized before might feel and suffer anxiety during the test. The age of the respondents, in over-all, had the opportunity of fluctuating the presence of anxiety problems.

The history of those not tested for HIV before had a direct effect on the existence of anxiety. Participants with history of a test before were more protective than those without a history of the test. The finding substantiates with a previous study conducted in other settings (23, 26, 28, 31). This might be related to the fact that the respondents who had tested for HIV before had less anxiety when retested because of previous exposure and counseling on HIV test.

PLWHA have the feeling of acute psychological reaction like anxiety, which can frequently associate with adverse life events (18). This study also supports this statement because of a high prevalence of anxiety problems at voluntary counseling and HIV testing centers. Despite the important impact of anxiety on the health and behavior of people living with HIV, it has been assessed less frequently (29). People often come for HIV test in the state of considerable anxiety for their health, their family health, their relationship, and their future employment (30); this supports our study findings why the prevalence of anxiety is high among voluntary counseling and HIV testing clients.

## Limitation

Cross-sectional study design does not allow the cause effect relationship. Prospective studies are necessary. Second, in this study, only interviewer-administered structured questionnaire was used to assess anxiety disorder and associated factors among voluntary counseling and HIV testing clients that results in information concealment. So, I recommended researchers for future research to incorporate qualitative interviews since it lets participants to liberally highlight their anxieties and obstacles concerning practices of VCT.

## Conclusion

► Prevalence of anxiety disorders among VCT clients of governmental health centers of Addis Ababa was high (39.2%).

► Having a history of giving a test before and partners being tested were the most protective factors for reducing anxiety problems and viceversa at VCT centers of Addis Ababa.

► Fear of social discrimination or stigma was one of the most important factors that affect respondents to have an anxiety problem.

Acronyms and Abbreviations

A.A: Addis Ababa

AIDS: Acquired Immune Deficiency Syndrome

AOR: Adjusted Odds Ratio

ARV: Anti Retro Viral

COR: Crude Odds Ratio

DSMIV TR: The text revision of the fourth edition of Diagnostic and Statistical Manual of Mental Disorders

GAD: Generalized Anxiety Disorder

HAART: Highly Active Antiretroviral Therapy

HC: Health Center



HIV: Human Immunodeficiency Virus  
LEBANON: Lebanese Evaluation of the Burden of Ailment and Needs of the Nation  
MDD: Major Depressive Disorder  
OCD: Obsessive-Compulsive Disorder  
PD: Panic Disorder  
PTSD: Posttraumatic Stress Disorder  
SPSS: Statistical Package for Social Science  
SRQ: Self Reporting Questionnaire  
VCT: Voluntary Counseling and Testing  
WHO: World Health Organization

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### Conflict of Interest

The author declares no professional, personal interest or financial conflicts of interest.

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