

## Prevalence of Anxiety Disorder and Associated Factors among Voluntary Counselling and HIV Testing Clients at Governmental Health Centers in 2017 in Addis Ababa, Ethiopia: A Cross Sectional Study

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### Abstract

**Back ground:** Over 450 million people are estimated to be suffering from mental disorders in the world today. In Ethiopia these problems account for 12.45% of the burden of diseases and 12% of people are suffering from some form of mental health problems of which, 2% are severe cases. Anxiety disorders are the most common of all psychiatric illness and result in considerable functional impairment and distress. Anxiety disorders are associated with significant morbidity and often are chronic and resistant to treatment.

**Objective:** To assess the prevalence of anxiety disorder and associated factors among voluntary Counselling and HIV testing clients of Addis Ababa governmental health centers, Ethiopia, 2017.

**Methods:** Institutional based cross-sectional study was employed at Addis Ababa governmental health centers from February 22 to March 10, 2017. Cluster sampling technique was used and 770 study subjects were interviewed. Data was entered to EPI INFO version 2002 and transferred to SPSS version 19.0 windows and was analyzed. The main statistical method applied was logistic regression, both the classical bivariate and the multivariate analyses were considered.

**Result:** The prevalence of anxiety disorder was 39.20% among Voluntary Counselling and Testing (VCT) clients. The most contributing factors remained to be statistically significant and independently associated with anxiety disorder were 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 positive result (AOR=2.60, 95%CI: 1.55, 4.36) while burden of family size was marginally significant at 0.05 level of significance ( $p=0.08$ ).

**Conclusion:** The prevalence of anxiety problems among voluntary counselling and HIV testing clients of Addis Ababa governmental health centers was high. Fear of stigma, fear of having positive result, no history of test before were the most factors associated with anxiety disorders. We recommend that, increasing awareness in reducing stigma, appropriate psychiatry counselling for individual and community at health center and Addis Ababa Health Bureau should also arrange measures of awareness rising for counsellors regarding association of anxiety problem and VCT which exert impact on VCT service.

**Keywords:** Anxiety disorder; HIV status; Voluntary Counselling and testing

### Acronyms and Abbreviations

A.A: Addis Ababa; AIDS: Acquired Immune Deficiency Syndrome; ARV: Anti-Retro Viral; DSMIV TR: The text revision of the fourth edition of Diagnostic and Statistical Manual of Mental Disorders; GAD: Generalized Anxiety Disorder; HAART: Highly Active Anti-retroviral Therapy; 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 Counselling and Testing; WHO: World Health Organization; WMH: World Mental Health

### Background

Over 450 million people are estimated to be suffering from mental disorders in the world today [1]. In low-income countries where morbidity and mortality are due to malnutrition and preventable infectious diseases are very common, mental disorders, which are not regarded as life-threatening problems, seem to be insignificant and unworthy of attention. However, the seriousness of mental disorders

in the low income countries is as common as in the developed world [2]. Among these mental disorders, anxiety and depressive disorders constitute a substantial proportion of the global burden of disease, and are projected to form the second most common cause of disability by 2020 [3]. An anxiety disorder is one of the most prevalent mental disorders in the general population, with women affected nearly twice as frequently as men. Anxiety disorders are associated with significant morbidity and often are chronic and resistant to treatment [4].

In Ethiopia mental health problems account for 12.45% of the burden of diseases and 12% of the Ethiopian people are suffering from some form of mental health problems of which, 2% are severe cases

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[5]. Study conducted in Jimma University showed the prevalence of anxiety disorder account for 41.0% among university students [6,7]. The anxiety disorder has considerable impact on the ongoing treatment and presentation of HIV.

PTSD and acute stress disorder are common among new diagnoses of HIV, and providers should be vigilant in the period following diagnosis to help manage stress and depressive symptoms related to diagnosis. Anxiety disorders may influence the management of HIV-positive individuals, as the presence of Panic Disorder (PD), Major Depressive Disorder (MDD), and Post-Traumatic Stress Disorder (PTSD). These were all found to increase patients' perceptions of pain, decreased adherence to HAART regimens, death anxiety, concern about health status, and loss of friends and loved ones due to HIV/AIDS. Older people living with HIV/AIDS may be more susceptible to stress due to their lower level of social support and increased isolation. And issues of anxiety and isolation may be best addressed with psychotherapeutic support [6,7].

The study of Lebanese Evaluation of the Burden of Ailment and Needs of the Nation (LEBANON) showed that 25.8% of the Lebanese adult population had at least one of the text revisions of the fourth edition of Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) defined lifetime disorder and 17% had at least one 12-month disorder. The lifetime prevalence of mood and anxiety disorders was 12.6% and 16.7%, respectively, while their 12-month prevalence was 6.6% and 11.2% [8-13].

The overall prevalence of anxiety and depressive disorders in Pakistan community population was 34% (ranging from 29%-66% for women and 10%-33% for men). There were no rigorously controlled trials of treatments for these disorders. Using stringent criteria, Harding et al. reported an overall frequency of anxiety and depression of 13.9% in four developing countries. Community study from Africa has reported prevalence of 24% in rural Uganda and 20%-24% in rural South Africa. Among patients attending primary care, the prevalence varied from 8% to 29%. Patients attending primary care in India showed prevalence between 21% and 57% [14]. The study conducted on major mental disorder in Ethiopia indicate phobic anxiety disorders were found to be the most common of all anxiety disorders, with life time prevalence of 4.8% and other anxiety disorders 2.7% [15].

People with HIV are more likely to experience a range of mental health issues like mood, emotions, and behavior. People with HIV and those close to them have the feeling of acute emotional distress, depression, and anxiety, which can often accompany adverse life-events [16]. The prevalence of anxiety disorders was as high as 38% in HIV-positive individuals. Anxiety disorders appear to be more common in women with HIV infection. HIV-positive women have been shown to have a high incidence of Post-Traumatic Stress Disorder (PTSD) (42%), and trauma-related disorders should be screened and treated appropriately [17-19]. Search for literature revealed that there was no study conducted on the prevalence of anxiety disorders and associated factors in Ethiopia.

Finally, it was hoped that this study:

- Would provide information for planners and decision makers of VCT service provider.
- May help to take measures on prevention of associated factors of anxiety problems so that VCT users can effectively manage their life style.
- Would help to generate and recommend valid information for

mental health planners, managers and implementers for possible interventions.

- Can be used as a base line for interested researchers to further investigate it.

## Methods

The aim of the study was to assess the prevalence of anxiety disorder and associated factors among voluntary Counselling and HIV testing clients at governmental health centers in Addis Ababa. Health institutional based cross-sectional study design was conducted from February 15 to March 9/2017 among voluntary Counselling and HIV testing clients at governmental health centers of Addis Ababa. Cluster sampling technique was employed. Six nurses were hired to collect data from participants at the exit of testing for assessment of anxiety disorders by Beck Anxiety Inventory criteria in accordance with criteria for moderate and severe form of anxiety. These are caused by fear of having test for HIV/AIDS without emphasizing on mild form of anxiety disorder because it is the usual problem without causing significant clinical distress and occupational as well as daily function impairment.

The cut point for individuals with anxiety problem was  $\geq 22$  point score. That means for the moderate and severe form of anxiety disorder with Grand sum between 22-35 for moderate and grand sum  $\geq 36$  for severe. For analysis, coded variables were entered into EPI INFO version 2002 and transferred to SPSS version 19.0 window software program. Logistic regression was used for comparison of subjects with and without anxiety disorder caused by fear of having voluntary Counselling and HIV testing.

From the bivariate analysis different models were fitted for the outcome variables in relation to each explanatory variable. Those, which fulfilled the minimum requirement 0.2 level of significance, were entered in to multivariate logistic analysis for further assessment. Informed verbal consent was obtained from the subjects, and the study was approved by Joint program of Gondar University and Amanuel Mental Specialized Hospital ethical committee. The main limitations of this study were: Difficulty of differentiating between psychiatric case of anxiety and anxiety caused by voluntary Counselling and HIV testing, because of risky activity previously engaged in many sexual activities or due to chronic medical case.

## Result

From the total of 806 study participants, only 770 participants completed the questionnaire. This makes the response rate 95.53%. The age of respondents ranges between 18 to 52 years with the mean age of  $27.27 \pm 6.32$  years. Majority 466 (60.5%) respondents were females. 323 (41.90%) of them were married and living together. Majority 285 (37.0%) of the respondents were Amhara in ethnicity. The educational status of majority 330 (42.9%) of the respondents of was 7-12 grades, while 105 (13.6%) were unable to read and write. Most 399 (51.8%) of the respondents were followers of Orthodox religion. The occupational status 266 (34.5%) were engaged in their own business. Monthly personal income of the majority 372 (48.3%) was less than 420 Ethiopian birr (Table 1).

## Status of study participants

Of the total participants 597 (77.5%) were individually presented for test whereas 113 (14.7%), 39 (5.1%) and 21 (2.7%) of the respondents were presented by couples, group and fiancé/ fiancées for marriage respectively. Among those having family members, 233 (46.1%) of

Characteristics	Frequency	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
Tigre	67	8.7
Gurage	197	25.6
Others	64	8.3
<b>Occupation</b>		
Jobless	76	9.9
Government	91	11.8
<b>employee</b>		
House wife	95	12.3
Private employee	145	18.8
Own business	266	34.5
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

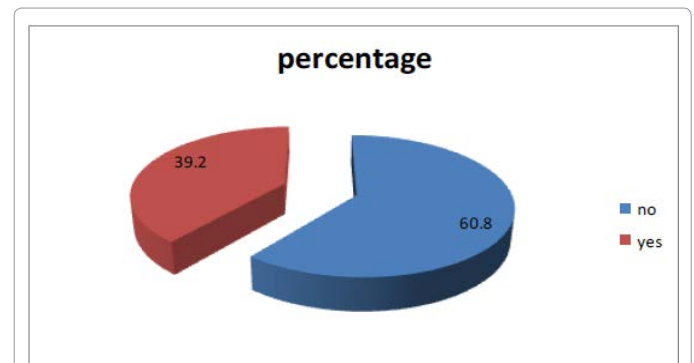
**Table 1:** Distribution of participants by socio-demographic characteristics at governmental health centers in 2017 in Addis Ababa, Ethiopia.

them were living with three to five members. 548 (71.2%) were free from fear of stigma or discrimination but the remaining 222 (28.8%) felt about stigma or discrimination for positive test result. Because of stigma/ discrimination fear, 136 (60.8%) delayed from having test for more than 6 month duration. Majority of respondents 406 (52.7%) were free from fear of having positive result. 438 (56.9%) were tested before and among ever married 218 (47.9%) had also been tested. Of the respondents of marked independent chronic health problem 60 (50%) were with respiratory problem (Table 2).

### Prevalence of anxiety disorder among voluntary counselling and HIV testing clients of governmental health centers in 2017 in Addis Ababa, Ethiopia

The overall prevalence of anxiety was 302 (39.20%). According to the multidimensional scoring system of anxiety, the proportion of

severe, moderate and mild anxiety respondents were 70 (9.1%), 232 (30.1%), and 468 (60.80%), respectively. Among these, only 302 (39.2%) of them fulfilled the diagnostic criteria for anxiety disorder (Figure 1). Prevalence of anxiety disorder among voluntary counselling and HIV



**Figure 1:** Prevalence of anxiety disorders among voluntary counselling and HIV testing respondents at governmental health centers in 2017 in Addis Ababa, Ethiopia.

Explanatory	Frequency (n)	percentage (%)
<b>Variable Session type (n=770)</b>		
Individual	597	77.5
Couples	113	14.7
Group	39	5.1
Fiancé/ Fiancées	21	2.7
<b>Family size (n=476)</b>		
One-two	50	10.5
Three-five	311	65.3
Greater than Or equal to six Fear of stigma/discrimination (N=770)	115	24.2
Yes	222	28.8
No	548	71.2
<b>Because of fear of stigma/discrimination Duration of delay (n=222)</b>		
<1 month	25	11.3
01-03 Months	26	11.7
04-06 Month	36	16.2
>6 Months	135	60.8
<b>Fear of having positive result (n=770)</b>		
Yes	364	47.3
No	406	52.7
<b>Chronic health problem (n=120)</b>		
Respiratory problem	60	50
Cardiovascular disease	23	19.2
Endocrine problem	10	8.3
Genitourinary problem	11	9.2
GIT problem	10	8.3
Others	6	5
<b>History of test before (n=770)</b>		
Yes	438	56.9
No	332	43.1
<b>History of partner/spouse test (n=476)</b>		
Yes	211	44.3
No	174	36.6
I do not know	91	19

**Table 2:** Distribution of participants by family size and information on voluntary counselling and HIV testing at governmental health centers in 2017 in Addis Ababa, Ethiopia.

testing respondents.

### Some factors associated with anxiety disorders among voluntary counselling and HIV testing clients at governmental health centers in 2017 in Addis Ababa, Ethiopia

In this regard, fear of having positive result, fear of stigma or social discrimination and chronic health problem was reported by 365 (47.4%), 222 (28.8%) and 120 (15.58%) respectively. It was found that there was high level of anxiety disorder among those with fear of having positive result (AOR=2.60 95%CI: 1.56, 4.36). In addition, for those with fear of social discrimination, there was high level of anxiety

disorder (AOR=3.01 95% CI: 1.67, 5.42), and the respondents with chronic health problems were also with more likely anxiety disorder (AOR=1.59 95% CI: 0.91, 2.79). There was significant association between anxiety disorder and age of the respondents ( $p<0.001$ ), family size of the respondents ( $p=0.025$ ) and being ever married ( $p<0.001$ ) (Table 3).

#### Bivariate analysis

**Factors associated with anxiety disorder:** From the bivariate analyses of anxiety disorder in relation to each exploratory variable, only ten variables (Age, educational status, income per month, marital

Explanatory variable Age	Anxiety disorder (n=770)		P-value of bivariate analysis	COR	95%,CI	AOR	95%,CI
	Yes n(%)	No n(%)					
18-22	51 (30.36)	117 (69.64)	0.001*	1		1	
23-27	99 (34.49)	188 (65.51)	0.365	1.21	(0.80, 1.82)	1.07	(0.40, 2.86)
28-32	79 (49.4)	81 (50.6)	<0.001	2.24	(1.42, 3.52)	1.54	(0.57, 4.18)
>=33	73(49.1)	82 (52.9)	0.002	2.04	(1.3, 3.22)	1.22	(0.45, 3.32)
<b>Sex</b>							
Male	117 (38.49)	187 (61.51)	0.736	1			
Female	185 (37.9)	281 (60.3)	0.143	0.95	(0.71, 1.28)		
<b>Educational status</b>							
Illiterate	41 (39.05)	64 (60.95)	0.202	1		1	
1-6grade	92 (40.71)	134 (59.29)	0.226	0.7	(0.41, 1.21)	1.97	(0.97, 3.9)
7-12grade	117 (35.45)	213 (64.55)	0.023	0.75	(0.48, 1.19)	2.25	(1.11, 4.57)*
College/ University	52 (47.71)	57 (52.29)	0.002*	0.6	(0.39, 0.93)	2.7	(1.12, 6.51)*
<b>Family size</b>							
One-two	33 (66)	17 (34)		1		1	
Three-five	129 (41.48)	182 (58.52)	0.12	1.72	(0.86, 3.43)	0.49	(0.22, 1.08)
> six	61 (53.04)	54 (46.96)	0.51	0.63	(0.41, 0.97)	0.82	(0.32, 1.92)
<b>Marital status</b>							
Never married	79 (26.87)	215 (73.13)	< 0.001	1		1	
Ever married	223 (46.85)	253 (53.15)	0.119	0.42	(0.30, 0.57)	1.62	(0.63, 4.18)
<b>Income per month</b>							
<420	133 (35.75)	239 (64.25)	0.056	0.67	(0.45, 1.01)	0.64	(0.32, 1.3)
420-1233	111 (41.11)	159 (58.89)	0.429	0.84	(0.55, 1.29)	1.02	(0.53, 1.96)
>1233	58 (45.31)	70 (54.69)		1		1	
<b>Fear of having Positive result</b>							
Yes	212 (58.08)	153 (41.92)	<0.001	4.85	(3.55, 6.63)	2.60 (1.56, 4.36)**	
No	90 (22.22)	315 (77.78)		1		1	
<b>Fear of stigma/ Discrimination</b>							
Yes	154 (69.37)	68 (30.63)	<0.001	6.12	(4.35, 8.62)	3.01	(1.67, 5.42)**
No	148 (27.01)	400 (72.99)		1		1	
<b>History of test Before</b>							
Yes	103 (23.52)	335 (76.48)	<0.001	1		1	
No	199 (59.94)	133 (40.06)	<0.001*	0.21	(0.15, 0.28)	3.97	(2.32, 6.81)**
<b>History of partner test before</b>							
Yes	60 (28.44)	151 (71.56)		1		1	
No	102 (58.6)	72 (41.4)	<0.001	3.57	(2.33, 5.45)	1.43	(0.81, 2.52)
I don't know	61 (67)	30 (33)	< 0.001	5.12	(3.01, 8.69)	1.46	(0.72, 2.97)
<b>Chronic health problem</b>							
Yes	71 (59.17)	49 (40.83)	<0.001	2.63	(1.77, 3.91)	1.59	(0.91, 2.79)
No	231 (35.54)	419 (64.46)		1		1	

For variables having more than two categories, the overall significance is given by their corresponding p-values\*

**Table 3:** Factors associated with anxiety disorder (Bivariate analyses and multivariate analysis) at governmental health centers in 2017 in Addis Ababa, Ethiopia.

status, family size, fear of stigma/discrimination, fear of having positive result, chronic health problem, history of test before and history of partner test before) variables fulfilled the minimum requirement (0.2 level of significance in this study). For further assessment the data were entered in to multivariate logistic analysis. On the other hand, one variable (sex of respondent) was not significant at 0.2 level of significance, and hence excluded from further analysis. Variables like ethnicity and religion were difficult to consider for further analysis. But, the occupation of respondents was included under monthly personal income and this why it was not further analyzed.

### Multivariate analysis

The multivariate logistic regression which controls the undesirable effects of confounding variables was used by taking all ten covariates (predictor variables) into account simultaneously for anxiety disorders (which were significant at the bivariate analyses of anxiety disorder in relation to each exploratory variable). During the multivariate analysis of anxiety disorder in relation to all exploratory variables, only three of the most contributing factors remained to be statistically significant and independently associated with the presence of anxiety disorder: (are) fear of stigma/discrimination, fear of having positive result and history of test before while family size was marginally significant (at 0.05 level of significance).

### Discussion

The overall prevalence of anxiety disorder was 302 (39.20%) and according to the multidimensional scoring system of anxiety disorder the proportion of severe, moderate and mild anxiety problem of respondents were 70 (9.10%), 232(30.10%), and 468 (60.80%), respectively. This prevalence was higher than the findings found in countries out of Africa like Lebanese and Pakistan, which was 16.7% and 34% respectively [13,14]. As compared to patient attending primary care in India which was with prevalence of 21%-57% this prevalence was slightly higher and community study from Africa has reported prevalence of 24% in rural Uganda and 20%-24% in rural South Africa [14], which is less than this finding. This might be because that study had been conducted in community whereas this study was conducted in stress causing area. However, this study was less than the study conducted among Jimma University students of South West Ethiopia eight years ago by Moges Ayele and Amare Mengistu which was 41.0% [6]. This might be due to the situations of the respondents which cause stress for academic purpose and separation from family was contributing for highest prevalence of anxiety. On the other hand, it might be related with the stress of the university students which has psychological impact that might induce anxiety. However, it was higher than the research conducted before in Ethiopia on the prevalence of mental distress found by community survey, which estimated the general mental distress 12-23.9% [1].

As the study conducted on major mental disorders in Ethiopia indicated, phobic anxiety disorders were found to be the most common of all anxiety disorders, with life time prevalence of 4.8% and other anxiety disorders 2.7% [15]. It is less than prevalence of this study because on that major mental disorders study, phobic anxiety disorder was studied independently as one disorder. However, in this study, all anxiety disorders were studied under one category criteria.

The prevalence of anxiety disorders was as high as 38% in HIV positive individuals [7], which was almost similar with the finding this study. From the total number of respondents 769 (99.9%) who reported anxiety disorders with at least one symptoms, only 302 (39.2%) of them

fulfilled the diagnostic criteria for anxiety disorder (according to Beck Anxiety Inventory Criteria). There was high level of fear of stigma/social discrimination, fear of having positive result among anxiety problem respondents than respondents without anxiety disorders ( $p < 0.001$ ). This finding was similar to the result of other studies [7,20].

There was marginal significance association between family size of respondents and anxiety disorders ( $p = 0.075$ ). In many other studies, the significance of burden of family size on anxiety disorders was reported. The history of those not tested for HIV before had a direct effect on the presence of anxiety disorder. Respondents who had history of test before showed 76.48% reduction in the presence of anxiety disorder compared to those respondents with no history of test (AOR=3.98, 95%CI: 2.32,6.51). History of partner test for HIV was also important predictor for the presence or absence of anxiety disorder. It was found that those respondents who had had history of partner test before were more likely protective to anxiety problem during VCT than those with partners without test before (AOR=1.43, 95%CI 0.81, 2.52).

Chronic health problem in general had possibility of increasing the presence of anxiety disorders as it is supported by DSM-IV [3]. For those respondents of high school (AOR=2.25, 95%CI 1.11, 4.57) and above (AOR=2.7, 95%CI 1.12,6.51) educational status, the probability of having anxiety disorders while VCT was more likely 2 times than unable to read and write or elementary group. The result found in this study after controlling other many variables indicated that those respondents who had been fear of stigma or social discrimination were 3 times more likely to have anxiety compared to those who had not been with fear of stigma (AOR=3.01, 95%CI: 1.67, 5.42).

This might be partly explained by the facts that fear of stigma causes multidimensional effect on the psychology of respondents while they think more about the isolation, loss of social support and decreased social relationship. Those who had been known to be individually stigmatized before might feel and suffer on anxiety during test. On the other hand, even if it was not assessed in detail in this study, stigma might have a psychological scar that might be painful. Age of the respondents in general had the possibility of altering the presence of anxiety problems.

Those with age above 23 years are more likely to suffer on anxiety problem than those less than 23 age, 23-27 (AOR=1.07, 95%CI: 0.40, 2.86), 28-32 (AOR=1.54,95: 0.57, 4.18) and >33 (AOR=1.22, 95%CI: 0.45, 3.32). This might be due to the fact that those young individual forget about anxiety causing situation and free from burden of family members.

There was no statistically significance difference between sex and anxiety problem. At bivariate analysis the sex of respondents was not significant at the minimal level of significance (0.2) but anxiety disorder is one of the most prevalent mental disorder in general population with women affected nearly twice as men [3].

This high prevalence of anxiety disorders (39.20%) at VCT can exert impact on client from having of test. Due attention is necessary because by 2020 anxiety and depression disorders might constitute substantial proportion of the global burden of disease and projected to form the second most common cause of disability [2].

People with HIV are more likely experience a range of mental health issue like anxiety, which can often accompany adverse life events [16], this study also support this statement because of high prevalence of anxiety problem at voluntary Counselling and HIV testing centers. Despite important impact of anxiety disorders on the

health and behavior of people living with HIV it was less frequently assessed [17]. People often come for HIV test in state of considerable anxiety for their health, their family health, their relationship and their future employment [20] this support our study why the prevalence of anxiety disorder is high among voluntary Counselling and HIV testing participants. Income per month of respondents was not significant with the presence of anxiety ( $p=0.22$ ). In this study, there was no evidence at the 5% level of significance to reject the null hypothesis of no significant association between income per month and anxiety disorder. With regard to marital status of participants, those who had ever married, 1.6 times more likely to have anxiety problem compared to participant who were never married (AOR=1.62, 95% CI: 0.63, 4.18).

## Conclusion

- The prevalence of anxiety disorders among voluntary Counselling and HIV testing of governmental health centers of Addis Ababa was high (39.20%).
- Having histories of test before and whose partners had been tested were the most protective for reducing of anxiety problem whereas no history tests of self and partners before were the most contributing factor in the presence of anxiety problem among VCT of governmental health centers Addis Ababa.
- Fear of social discrimination or stigma was one of the most factors that affect respondents to have anxiety problem.

## Strength of the Study

A few studies done related to this study to assess prevalence of anxiety disorder and associated factors among VCT, so this study is the base line for further investigations.

## Limitation of the Study

Even if psychiatric case of anxiety disorders was assumed to be rare for those groups, it is difficult to differentiate between psychiatric case of anxiety and anxiety caused by voluntary Counselling and HIV testing, because of risky activity previously engaged in many sexual activities or due to chronic medical case. In addition, some biases might have been occurred when interviewing the patients as they might suspect something incentive behind for those with problem like aid.

## Declaration

### Ethical consideration

Ethical clearance was obtained from the Institutional Review Board of joint program of Gondar University and Amanuel Mental Specialized Hospital. Then formal letter of cooperation was written to Addis Ababa Health Bureau. Moreover, respondents were briefly informed about the objectives, disadvantages and relevance of the study. Participants' privacy and confidentiality of the information was maintained by using anonymous type of data collection tool. Data was locked with key till entered to a computer with password. Informed verbal consent was obtained from each participant to ensure their voluntariness to participate in the study. Respondents were the right to put an end for the question or segment of questions or refuse to participate at all. After data collection, health education on the normal emotional reaction and anxiety problems was given for the study subjects.

## Availability of Data and Material

The datasets used and/or analyzed during the study were available from the corresponding author on reasonable request.

## Consent for Publication

This manuscript contains original material. Neither the article nor any part of its essential substance, tables, figures, has been or will be published elsewhere. I have submitted for publication without conflict of interest.

## Competing Interests

The author declares that he has no significant competing financial, professional or personal interests that might have influenced the performance or presentation of the work described in this manuscript.

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## Author's Contributions

AB conceived the study, the design, field work, data analysis and interpretation, report writing and manuscript preparation.

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