

Factors Associated With Alcohol Use Disorder Among People Living With HIV/AIDS Attending Art Clinic, Mizan Tep University Teaching Hospital, South West Ethiopia

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Research note

Keywords: Magnitude, Alcohol use disorder, factors.

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Abstract

Abstract Objective: To assess the magnitude of alcohol use and factors among HIV/AIDS positive adults visiting ART clinic at Mizan Tep university Teaching Hospital (MTUTH), Southern Ethiopia from October 2017 to December 2017. **Result:** A total of 332 participants were enrolled in the study with the prevalence of alcohol use disorder (AUD) of 18.4%. Factors associated with alcohol use disorder were sex AOR=3.48 (95%CI: 1.27, 9.59), cigarette smoking AOR=5.12(95%CI:4.02,8.61), “Khat” chewing AOR=3.23(95%CI: 2.06,6.89),and CD4 count of 0-200 AOR = 19.49 (95% CI:1.74 ,218.4). **Key words:**-Magnitude, Alcohol use disorder, factors.

Introduction

Human Immune deficiency virus (HIV) is a virus affecting more than 60 million peoples since epidemic had began [1]. In 2013 an estimated 35.0 [33.2-37.2.] million people were living with HIV worldwide. Sub-Saharan Africa is home to only 12% of the global population, yet accounts for 71% of the global burden of HIV infection [2].

Ethiopia is one of the Sub-Saharan African countries where there is high rate of HIV/AIDS infection next to South Africa and Nigeria. According to the (Ethiopia Demographic health survey (EDHS) in 2016 indicated that Gambela region had the highest incidence of HIV /AIDS6% [3]. Alcohol is a psychoactive substance with dependence producing properties that has been widely used in many cultures for centuries. Harmful use of alcohol causes a large degree of health problem as well as social and economic burden in societies [4].

Alcohol use disorders among people living with HIV/ AIDS (PLWHA) seems to be 2–4 times higher than those disorders in the general population [5].

The studies also reveal that in Sub Saharan African countries, particularly in Nigeria, infectious diseases make up 50% of the overall alcohol-attributable disease burden [6, 7]

Alcohol use among HIV patients plays an important role in their health outcomes and complicates the infection process by contributing to co-morbid diseases and drug interactions. It also increases opportunistic infection to be strengthened among ART users. Alcohol consumption has been also shown to decrease adherence and effectiveness to ant retro viral therapy (ART). It had also effect on the liver which affects drug metabolism, enhance viral load. Besides, it has also had effect on certain clinical and laboratory parameters, resulting in poor clinical outcome [8, 9] .So, certain factors affecting alcohol abuse and the consequences that such behaviours can have on the evolution of the disease are amendable to intervene. The identification of these factors may be useful in the implementation of actions aimed at controlling alcohol use and providing relevant information for detecting individuals at a higher risk of adverse clinical outcomes.

Objectives

General Objective

To assess the magnitude and associated factors of alcohol use disorder among PLWHA attending ART clinic at MTUTH, Southwest Ethiopia, 2018.

Specific Objective

To determine the magnitude of alcohol use disorder among PLWHA attending ART clinic, MTUTH, Southwest Ethiopia, 2018.

To identify associated factors with alcohol use among PLWHA attending ART clinic, MTUTH, southwest Ethiopia, 2017.

Methodology

Study Area and Period

The study was conducted at Mizan Tep university hospital from October 10 to December 9, 2017, which is located in southern nation nationality people region (SNNPR) of Ethiopia and bordering Gambella Region .It is 832 km from the capital city of the region called Hawassa. It is also 588 km`s from Addis Ababa, which is the capital city of the country. It provides different services for outpatient and inpatient population from SNNPR and neighbouring region called Gambela and Oromia in Ethiopia.

Study Design

Institutional based cross-sectional study design was used.

Source Population

All HIV positive patients who have follow up at ART Clinic in MTUTH, Southwest Ethiopia during data collection period.

Study Population

Those sampled HIV positive patients who attend ART clinic during the study period in the hospital

Eligibility Criteria

Inclusion criteria

Sampled HIV positive patients with age greater than or equal to 15 years were included in the study.

Exclusion criteria

Sampled patients who were unwilling to give informed consent and severely ill

Sample size determination

The required sample size was calculated by using single population proportion formula. The Proportion of alcohol use disorder among PLWHA was used from cross sectional study done at Jimma in 2012 which is 32.6% [10] with 5% marginal error and 95% confidence interval (CI) of certainty ($\alpha=0.05$).

$$n = \frac{(Z_{\alpha/2})^2 P(1-P)}{d^2}$$

d²

Where: n= sample size, Z $\alpha/2$ = Critical value=1.96

P= magnitude of alcohol use among PLWHA=0.326 (32.6%)

d= precision (marginal error) =0.05

Therefore, $n = (Z_{\alpha/2})^2 P(1-P) / d^2$, $n = (1.96)^2 * 0.326(1 - 0.326) / (0.05)^2 = \mathbf{338}$

Since total number of HIV positive patients visiting ART clinic at HUCSH are <10,000, we used correction formula to know the final sample size as follows.

$$n_f = \frac{n_i}{1 + n_i/N} \quad \text{where: } n_i - \text{Initial sample size}$$

$$1 + n_i/N \quad n_f - \text{Final sample size}$$

$$n_f = \frac{338}{1 + 338/2800} \quad N - \text{Total number of PLWHA visiting ART clinic}$$

$$1 + 338/2800$$

$$n_f = 301.78 \gg \mathbf{302}$$

Ten percent of the calculated value of non-respondents will be **30.2**.

$$n_f = 302 + 30.2, \quad n_f = 332.2 \gg \mathbf{332}$$

Sampling technique

Study participants were selected by systematic sampling method by drawing those ART patients having follow up in the ART registration book by establishing the sampling frame. The sample size for the study comprised of 332 patients who were selected by systematic random sampling, calculating sampling interval $K = (N/Tsz)$. N denotes total numbers of patients having ART follow up during the study period in MTUTH which was 1024 and Tsz is the total sample size. So, every 3rd patient was selected from sampling frame. The sampled ART outpatients were present and exit interviews were carried out.

Study variables

Dependent variable

Alcohol use disorder

Independent variables

Socio-demographic variables

:-Age, sex, marital status, occupational, educational status, religion, ethnicity, living condition and income.

Clinical variables:-stage of HIV, year of serostatus, CD4 count, Viral load, HIV/AIDS stage, On ART or not, social support and HIV related stigma.

Substance use:-Tobacco , Khat, Cocaine, Alcohol.

Data Collection Instruments

Data was collected by semi structured self-administered questionnaire prepared in English and translated into Amharic and re translated to English to ensure its consistency. The questionnaires are adopted and modified from WHO-substance use survey questionnaire. It consists of socio-demographic variables, substance use, health status and stigma related questions. The structured questioner, Oslo-3 social support scale, perceived HIV stigma scale and Alcohol Use Disorder Identification Test (AUDIT) was used to assess alcohol use disorder. Supervision was done while data collectors collect data and the information was checked for completeness and internal consistency.

Data Processing and Analysis

Data was checked and coded for its completeness and entered into Epidata 3.1 version then Statistical Package for Social Sciences (SPSS) version 20 was used for analysis. Both descriptive and inferential statistics procedures were undertaken. Tables and figures were used to present the data. Binary logistic regression model was used to identify factors associated with alcohol use disorder. Crude and adjusted odds ratios with 95% confidence interval were used to determine the strength of association between dependent and independent variables. Those Variables with P value <0.05 were considered as significant.

Operational Definition

Social Drinker: The total AUDIT scores of the drinkers among 1 to 7.

Hazardous Drinking: the total AUDIT scores of the drinkers among 8 to 15.

Harmful Drinking: the total AUDIT scores of the drinkers among 16 to 19.

Alcohol Dependence: the total AUDIT scores of the drinkers among 20 to 40.

Alcohol use disorder: a patient who scored AUDIT scores > 8.

Dissemination and Utilization

Finally the result from this study was disseminated to MTUTH

Ethical Consideration

Ethical clearance was obtained from Mizan Aman health Science College and permission was obtained from MTUTH. All participants of the study were asked and signed an informed consent after elaborating clearly the objectives of the study. Their right to refuse were also kept honestly.

Result

A total of 332 participants were enrolled with a response rate of 100%. Most of the participants, 184 (55.4%) were females. The mean age of the respondents was 37.89 (SD 10.27). Ninety five (28.6%) were kaffa and 66(19.9%) Amhara by ethnicity. The educational level of 126 (38%) respondents was found to be in primary school (See Table 1 below).

Magnitude of Alcohol use disorder

The magnitude of alcohol use disorder was found to be 18.4%. The prevalence of social drinkers hazardous drinkers, harmful alcohol users , and alcohol dependents were computed to be 32.2%, 11.4%, 1.8%, 0.9%, respectively. Most of the respondents, 178 (53.6%) were non-alcohol users.

Associated factors for AUD among PLWHA

In the binary logistic regression; sex, age education level, occupation, cigarette smoking, “khat” chewing, CD4 count were significantly associated with alcohol use disorder. But in multivariate analysis. Sex, Cigarette Smoking, “khat” chewing, and CD4 count were independently associated with alcohol use disorder (See Table 2 below).

Discussion

According to this study finding done in Mizan Tep university Hospital, the magnitude was high and its predictors called cigarate smoking, “khat chewing”, smoking cigarate and having low CD4 count was found.

This study reveals that the magnitude of alcohol use disorder (AUD) was 18.4% which is higher than similar studies done in 2015 at “Bishoftu” in Ethiopia which was 14.2% [11]. It was in line with that of Jimma study which is 32.6% of PLWHA have been found to be alcohol use disorder [10]. Therefore, this study gives additional evidence for designing interventions for alcohol use disorder among HIV infected patients because of uniformly distributed throughout south west part of the country.

An overview of globally done studies on the topic reveals that the magnitude ranges from 1.4% in Uganda to 49.5% in Brazil [12]. The possible explanation for this might be cultural, socioeconomic and contextual differences. The sample size variation and instruments used to assess AUD differences were also the possible reasons that make the dissimilarity at both ends [13].

Our study showed that males had 3 times higher risk for AUD than females. This study result is higher than the study done in Jimma and Nigeria respectively [10, 14]. The possible explanation for this might be the cultural and economic dominance of males in Africa.

This study also showed that those who smoke cigarettes had 5 times greater risk than non smokers to had alcohol use disorder. This finding is higher than the different study done in [15, 10]. Therefore, this study gives additional evidence for planning appropriate intervention in smoking among HIV infected patients. So, different studies also indicated that individuals who drink had a probability to be engaged in smoking.

In this study; those participants who chew “khat” were 3 times more likely to had AUD as compared to those non “khat” chewers. This finding is higher than the study done in Jimma, Ethiopia [15]. So, this might be due to one of more “khat” growing region and a chewing practice is prevalent region in Ethiopia. Provision of health education regarding harmful effect of “khat” chewing thoroughly. So, designing strategies will be vital to minimize chat chewing magnitude since it is associated with alcohol use disorder.

This study also indicated that those PLWHA having CD4 count of $<200\text{cell}/\text{mm}^3$ had much more likely to had alcohol use disorder when compared to those PLWHA having $> 500\text{cell}/\text{mm}^3$ CD4 count. This study result is also supported by studies done in Brazil in 2013. This is due to direct immune suppressive effect of alcohol. [13]. This is might be due to knowing their low CD4 count makes them to use alcohol excessively. So, close monitoring of patients CD4 is mandatory for better clinical outcome.

Conclusion

The magnitude of alcohol use disorder was high. Alcohol use disorders were independently associated with male patients, cigarette smokers, “khat” chewers, and those with low CD4 count.

RECOMMENDATIONS

Providing health education about alcohol use disorder and its devastating effect of alcohol in the health institution as well in the community will be essential to decrease those who will have alcohol use disorder. Besides, proper screening of alcohol use disorder among patients with HIV/AIDS is crucial. Moreover, strengthening the referral linkage with psychiatric units for psycho behavioural therapy will decrease the burden of the problem and brought change on ART patient.

Limitation

There may be recall bias and social desirability bias

Acronyms And Abbreviations

AIDS: Acquired Immune Deficiency Syndrome

ART: Anti-Retroviral Therapy

AUDIT: Alcohol Use Disorder Identification Test

HIV: Human Immunodeficiency Virus

MTUTH: Mizan Tep university Teaching Hospital

PLWHA: People Living With HIV/AIDS

UNICEF: United Nations International Children's Emergency Fund

WHO: World Health Organization.

Declarations

Ethics approval and consent to participate

The study was conducted after approval of ethical review committee of Mizan Aman Health Science College. Permission to conduct the study was obtained from authorities at Mizan Tep University Teaching Hospital. Written informed consent was obtained from each study participant by assuring privacy and confidentiality throughout the data collection period in the Hospital. An individual who was unwilling to participate from the beginning or at any part of the interview was allowed to withdraw. There was no risk or hazardous procedures putting the participants at harm.

Consent to publish

Not applicable

Availability of data and materials

The data supporting the finding were avail in public repositories.

Competing interests

There is no competing interest.

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Author's contribution

The author contributes for this study in analysing the data gathered and preparing this manuscript.

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Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- [Tables1and2.pdf](#)