Prevalence and correlates of common mental disorder among HIV patients attending antiretroviral therapy clinics in Hawassa City, Ethiopia

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Abstract

Background: Common mental disorder (CMD) is a group of disorders which include depression, anxiety and somatoform disorders with significant contributions to the burden of disease. It can lead to high social, economic and individual costs because it accounts for one-third of the days missed at work and a fifth of all primary health-care appointment. This study was aimed to assess the prevalence and factors associated with common mental disorders among HIV patients in Hawassa City, Ethiopia, 2018.

Methods: The cross-sectional study was conducted at Hawassa University Comprehensive Specialized Hospital, Ethiopia, among 294 HIV patients who were recruited through systematic sampling techniques. Common mental disorder was assessed through face to face interviews by trained professional psychiatry nurses using a WHO-validated 20-item version of the Self-Reporting Questionnaire (SRQ-20). Other possible risk factors of CMD were assessed using a structured questionnaire, perceived HIV stigma scale and Oslo Item 3 Social Support Scale.

Results: A total of 294 HIV patients participated in the study giving a response rate of 98.7%. The mean (± SD) age of the respondents was 35.86 years (± 9.23). Among the study participants, being female [AOR = 1.25, (95% CI 1.01, 2.43)], being widowed [AOR = 1.99, (95% CI 1.51, 5.28)], having poor social support [AOR = 2.44, (95% CI 1.33, 4.51)], having previous history of psychiatric illness [AOR = 3.83, (95% CI 1.89, 9.33)] and HIV-related perceived stigma [AOR = 1.97, (95% CI 1.63, 2.89)] were more likely to have common mental disorder when compared to their counterparts.

Conclusion: The prevalence of common mental disorder was high. The Ministry of Health should develop a guide-line which helps to screen and treat common mental disorders at ART clinics. Further interventional research on risk factors of common mental disorder should be conducted to strengthen and broaden the current findings.

Keywords: Common mental disorder, HIV, AIDS, South Ethiopia, Cross-sectional study

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Background
Common mental disorder (CMD) is a group of disorders which includes depression, anxiety and somatoform disorders with significant contributions to the burden of disease and disability in low- and middle-income countries [1]. It is believed that common mental disorder can lead to high social, economic and individual costs because they account for one-third of the days missed at work and a fifth of all primary health-care appointments [2]. The WHO in 2017 estimated that 4.4% and 3.6% of the global population suffered from depression and anxiety, respectively, while depression alone accounts for 5.4% in the African region [3].

CMD is highly prevalent in people living with HIV/AIDS (PLWHA) [4]. There is an interdependence and vicious circularity between mental health and HIV/AIDS. Study findings from the developed countries show that just under half of all PLHWA have a diagnosable mental disorder and in some instances a threefold higher rate of mental disorder [5]. Where mental illness and HIV co-occur; there is increasing evidence that the progression of the virus is greater and there is poor adherence to medication [4, 5].

PLWHA have a higher prevalence of common mental disorders than non-HIV-infected individuals [6]. Common mental disorder is among the most prevalent conditions with a prevalence of over 30% among PLWHA reported across studies in some low- and middle-income countries (LMIC), particularly for depression [7]. It contributes significantly to poor HIV disease outcomes such as increased HIV treatment failure and increased risk of HIV acquisition especially in LMIC [8].

HIV/AIDS imposes a major psychological burden to the infected individuals. People with HIV often suffer from common mental disorder, as they adjust to the impact of the diagnosis of being infected and face the difficulties of living with a chronic life-threatening illness, for example, shortened life expectancy, complicated therapeutic regimens, stigmatization and loss of social support. HIV infection can be associated with high risk of suicide [9].

Provoking factors for common mental disorder in PLWHA are related to stress, low social support, number of negative life events, not disclosing HIV status and CD4 cell count of <500 cells/mm³ [10–14]. Despite the fact that developing countries carry more than 90% of the burden of HIV/AIDS, little information about the interaction between HIV/AIDS and mental health is available from low- and middle-income countries [4–8]. In low- and middle-income countries, where specialists for mental health care are scarce, less specialized providers can be used to effectively deliver evidence-based treatments for common mental disorder. Therefore, with the aim of filling the knowledge gap, we assessed the prevalence of common mental disorder and associated factors among HIV-infected patients receiving antiretroviral treatment in Ethiopia.

Methods
Study setting and population
A hospital-based cross-sectional study design was employed at Hawassa University Comprehensive Specialized Hospital, Hawassa, Ethiopia. A total of 294 HIV patients who had regular follow-up at the antiretroviral therapy (ART) clinic were recruited for this study. From the study participants who had known psychiatric illness that hinders their capacity to participate in the study, those patients who were in the intensive care unit and those unable to communicate due to hearing problems were excluded from the study. Study participants were included using systematic sampling technique.

Data collection
Professional psychiatry nurses who had taken all the necessary research training had collected the data using pretested interviewer-administered questionnaire. The data collection tool had socio-demographic characteristics, substance use-related questionnaire, clinical-related questionnaires, Oslo Social Support Scale, perceived HIV stigma scale and Self-Reporting Questionnaire 20 (SRQ 20). Social support was estimated using Oslo 3-Item Social Support Scale. This scale has the sum score scale ranging from 3 to 14 with three broad categories: “poor support” 3–8, “moderate support” 9–11 and “strong support” 12–14. This scale has not been validated to Ethiopian context; however, it was highly reliable in our pre-test with Cronbach’s α = 0.91 [15]. HIV-related perceived stigma was collected using an 11-item HIV stigma scale. This scale consisted of four-point Likert scale questions concerning perceived isolation, shame, guilt and disclosure of the HIV status. The item scores of the stigma questions were summed to construct a single stigma variable. Finally, the study participants were classified as having or not having perceived stigma using the mean of perceived HIV stigma (patients who scored greater than or equal to mean (≥19.21 or ≥ 5.97) [16, 17]. This instrument was adapted and translated to Amharic language and back to English. This scale also has not been validated to Ethiopian context; however, it was highly reliable in the study (Cronbach’s α = 0.95). The presence of common mental disorder was assessed using the 20-item version of the Self-Reporting Questionnaire (SRQ-20). It was developed by the World Health Organization (WHO) as a screening tool for common mental disorders [18]. The SRQ-20 has been tested in numerous settings and depending on the setting, community
surveys or primary care, varied cutoff points have been used although a cutoff point of 7/8 is widely used. The patient’s psychiatric status has to be confirmed by a more extensive psychiatric interview. The questionnaire has already been translated into a variety of languages to allow it to be used among people of different cultures. Where SRQ-20 has been validated in other sub-Saharan countries, the optimal cutoff point for defining cases for CMD has also varied widely from ≥ 4 in Sudan to ≥ 10 in South Africa. Population surveys in Ethiopia have used various cutoff points to define cases of CMD, ≥ 6 in Addis Ababa and ≥ 11 in two rural settings, none of which were supported empirically. In the current study, CMD was measured using the locally validated Self-Reported Questionnaire (score of ≥ six indicating high levels of CMD). The SRQ-20 has previously been translated into Amharic and validated in Ethiopia, and it has been used for community surveys [19, 20].

Data processing and analyses
We used EPI info version 7 for data entry and SPSS version 22 for data analysis. Multivariable logistic regression analysis was used to see the association of each independent variable with the variable of outcome and to identify potential confounders. A p value of less than 0.05 was considered statistically significant, and adjusted odds ratio with 95% CI were calculated to determine the association. Finally, data were presented by using numbers, frequencies, tables, OR and AOR.

Results
Socio-demographic characteristics of the study participants
A total of 294 HIV patients participated in the study, giving a response rate of 98.7%. The mean (± SD) age of the respondents was 35.86 years (± 9.23). All the study participants were Ethiopians. Regarding the religious view of the respondents, 126 (42.9%) were Orthodox religion followers, 104 (35.4%) were Protestant religion followers, 45 (15.3%) were Muslims and 19 (6.5) were Catholic religion followers (Table 1).

| Variable Category | Frequency (n) | Percent (%) |
|-------------------|---------------|-------------|
| Gender Male       | 120           | 40.8        |
| Female            | 174           | 59.2        |
| Age 18–29         | 54            | 18.4        |
| 30–39             | 116           | 39.5        |
| 40–49             | 83            | 28.2        |
| ≥ 50              | 41            | 13.9        |
| Marital status Single | 68         | 23.1        |
| Married           | 145           | 49.3        |
| Divorced          | 39            | 13.3        |
| Widowed           | 42            | 14.3        |
| Religion Muslim   | 45            | 15.3        |
| Orthodox          | 126           | 42.9        |
| Protestant        | 104           | 35.4        |
| Catholic          | 19            | 6.5         |
| Education No formal education | 95        | 32.3        |
| Primary school    | 77            | 26.2        |
| High school       | 36            | 12.2        |
| College/university | 42          | 29.3        |
| Occupational status Housewives | 44        | 15.0        |
| Civil servant     | 76            | 25.9        |
| Non governmental  | 25            | 8.5         |
| Daily labor       | 22            | 7.5         |
| Merchant          | 103           | 35.0        |
| Unemployed        | 24            | 8.2         |
| Living status Family | 188       | 63.9        |
| Alone             | 58            | 19.7        |
| With relatives    | 48            | 16.3        |
| Monthly income    |                |             |
| < 2500 ETB        | 79.2          | 79.6        |
| 2500–5000 ETB     | 14.6          | 14.6        |
| > 5000 ETB        | 5.8           | 5.8         |

Prevalence of common mental disorders and associated factors
The prevalence of common mental disorder in the current study was 32.7%. Binary logistic regression analysis showed that being female, being widowed, having perceived HIV-related stigma, having previous history of mental illness and those who had poor social support were significantly associated with common mental disorder (Table 3).

Discussion
This study was conducted to assess the prevalence and factors associated with common mental disorder in HIV-positive patients who were enrolled into the ART
The prevalence of common mental disorder was 32.7%, which was lower than that of other studies conducted in three hospitals in Ethiopia [21, 22], Nigeria [23] and Uganda [24]. On the other hand, the current finding was higher than study’s findings from Debremarcos, Ethiopia [25], Dilla, Ethiopia [10], and South Africa [19]. The variation in prevalence might be attributed to the difference in the following factors. The first variation is attributed to the difference in the data collection tools which were used to measure common mental disorder. Some studies used Kessler Psychological Distress Scale (K-6 and 10), General Health Questionnaire (GHQ-10) and Self-Reporting Questionnaire (SRQ-20) with lower or

### Table 2: Clinical and social support factors among HIV patients at Hawassa, Ethiopia, 2018 ($n=294$)

| Clinical and social support characteristics | Frequency | Percent |
|--------------------------------------------|-----------|---------|
| Drug adherence                             |           |         |
| Good                                       | 180       | 61.2    |
| Poor                                       | 114       | 38.8    |
| HIV status of the partner                   |           |         |
| Positive                                   | 165       | 56.1    |
| Negative                                   | 50        | 17.0    |
| Do not know                                | 79        | 26.9    |
| Social support                             |           |         |
| Poor                                       | 87        | 29.6    |
| Good                                       | 207       | 70.4    |
| Duration of the illness (years)            |           |         |
| $< 5$                                       | 89        | 30.3    |
| $5–10$                                     | 150       | 51.0    |
| $\geq 10$                                   | 55        | 18.7    |
| CD4 cell count of the participants          |           |         |
| 200                                         | 27        | 9.2     |
| 200–1000                                   | 259       | 88.1    |
| $\geq 1000$                                | 8         | 2.7     |
| Family history of mental illness           |           |         |
| Yes                                        | 37        | 12.6    |
| No                                         | 257       | 87.4    |
| Previous history of mental illness         |           |         |
| Yes                                        | 17        | 5.8     |
| No                                         | 277       | 94.2    |
| Perceived stigma                           |           |         |
| Yes                                        | 165       | 56.1    |
| No                                         | 129       | 43.9    |
| Social support                             |           |         |
| Poor                                       | 87        | 29.6    |
| Good                                       | 207       | 70.4    |
| Comorbid illness                           |           |         |
| TB                                         | 21        | 7.1     |
| Heart diseases                             | 9         | 3.1     |
| Liver diseases                             | 8         | 2.7     |
| Diabetes                                   | 12        | 4.2     |
| No comorbidity                             | 244       | 82.9    |
| Substance use (alcohol and cigarette)      |           |         |
| Yes                                        | 31        | 10.5    |
| No                                         | 263       | 89.5    |

### Table 3: Factors associated with common mental disorders among HIV patients attending hospitals at Hawassa, Ethiopia ($n=294$)

| Characteristics                  | Common mental disorder | COR at 95% CI | AOR at 95% CI |
|----------------------------------|------------------------|---------------|---------------|
| Age in years                     |                         |               |               |
| 18–29                            | 15                      | 39            | 1.59 (0.59, 4.21) |
| 30–39                            | 50                      | 66            | 3.13 (1.33, 7.33) |
| 40–49                            | 23                      | 60            | 1.58 (0.64, 3.93) |
| $\geq 50$                        | 8                       | 33            | 1             |
| Gender                           |                         |               |               |
| Male                             | 107                     | 91            | 1             |
| Female                           | 67                      | 29            | 1.96 (1.17, 3.29) |
| Marital status                   |                         |               |               |
| Single                           | 27                      | 41            | 1             |
| Married                          | 26                      | 119           | 0.33 (0.17, 0.93) |
| Divorced                         | 17                      | 22            | 1.17 (0.53, 2.61) |
| Widowed                          | 26                      | 16            | 2.47 (1.12, 5.44) |
| Living status                    |                         |               |               |
| Family                           | 49                      | 139           | 1             |
| Alone                            | 30                      | 28            | 3.04 (1.65, 5.59) |
| Relatives or others              | 17                      | 31            | 1.55 (0.79, 3.06) |
| HIV status of partner            |                         |               |               |
| Positive                         | 44                      | 121           | 0.56 (0.32, 0.99) |
| Negative                         | 21                      | 29            | 1.21 (0.54, 2.31) |
| Do not have partner              | 31                      | 48            | 1             |
| Social support                   |                         |               |               |
| Poor                             | 45                      | 42            | 3.28 (1.94, 5.55) |
| Good                             | 51                      | 156           | 2.44 (1.33, 4.51) |
| Previous history of mental illness|                         |               |               |
| Yes                              | 11                      | 6             | 4.14 (1.48, 11.56) |
| No                               | 85                      | 192           | 3.83 (1.89, 9.33)* |
| Family history of mental illness  |                         |               |               |
| Yes                              | 8                       | 29            | 0.53 (0.23, 1.21) |
| No                               | 88                      | 169           | 1             |
| Perceived HIV stigma             |                         |               |               |
| Yes                              | 55                      | 74            | 2.25 (2.13, 3.73) |
| No                               | 41                      | 124           | 1.97 (1.63, 2.89)* |
| CD4 cell count                   |                         |               |               |
| $< 200$                          | 11                      | 16            | 2.06 (0.35, 12.17) |
| 200–1000                         | 83                      | 176           | 1.42 (0.54, 7.16) |
| $\geq 1000$                     | 2                       | 6             | 1             |

**$p<0.01$, *p<0.05$**
higher cutoff point. Secondly, the study population and sample size discrepancy might play a great role in the variation. For example, a study conducted in three hospitals in Ethiopia included TB/HIV co-infected patients which might overestimate the magnitude of CMD [21, 22], while other studies included a large sample size. The study setting and design (case–control vs. cross-sectional design) also contributed to the mentioned difference. The majority of the studies were conducted in the hospital setting, while others in the community setting.

Females were 1.25 times more likely to have common mental disorder when compared to males. Findings from different studies revealed that common mental disorders such as anxiety, depression and somatoform disorders are commonly seen in females, which might be attributable to the biological difference between both sexes [26].

Common mental disorder was significantly higher in divorced individuals. This is in line with other findings in Ethiopia [25] and South Africa [19]. This might be because the lack of emotional support from the partner might predispose them to this disorder. On the other hand, having mental illness could hinder the marital partner from handling the relationship and might lead them to divorce.

HIV-positive individuals who have reported HIV-related perceived stigma were 1.99 times more likely to have common mental disorder when compared to their counterparts. This is in agreement with other study findings [10, 19, 21, 25, 27, 28]. Individuals with perceived stigma might have poor self-image and be socially isolated from others and this in turn might predispose them to common mental disorders.

Patients having a previous history of psychiatric illness were more likely to have CMD. Although it was not clear whether the presence of HIV has an effect on the severity of previous psychiatric symptoms of patients, HIV patients with previous history of psychiatric disorders are prone to relapse. This might be because the chronicity of the disease may cause more severe symptoms and precipitate the relapse of previous mental illness [29, 30].

In this study, poor social support is an independent contributing factor for the development of common mental disorder. This might be because social isolation by HIV patients itself reduces social support that can result in a negative impact on their physical and mental well-being. This is also supported by the fact that these patients might prefer to avoid seeking help from others, and in addition social stigma towards them could increase their isolation and loneliness [29–31].

Conclusion

The prevalence of common mental disorder was high. Being of female gender, being divorced, having perceived HIV-related stigma, having previous history of psychiatric illness and poor social support had significant association with common mental disorder. Healthcare providers who work in HIV clinics should give more emphasis to female, divorced and patients with previous history of psychiatric illness. Delivering health education is also recommended for patients with HIV-related perceived stigma and poor social support. The Ministry of Health should develop a guideline which helps to screen and treat common mental disorder at ART clinics. Further interventional research on risk factors of common mental disorder should be conducted to strengthen and broaden the current findings.

Limitation of the study

HIV-related perceived stigma scale and Oslo Social Support Scale have not been validated for the country of origin of the investigated sample. This may over- or underestimate the characteristics measured by these scales.

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Authors’ contributions

BD conceived the study and was involved in the study design, review of the article, analysis, report writing and drafting of the manuscript. AT and IA were involved in the study design and proposal development. All authors read and approved the final manuscript.

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Availability of data and materials

All relevant data are in the paper. If further data are needed, kindly contact the principal author at berkole.dad@gmail.com.

Ethics approval and consent to participate

Ethical clearance for this study was obtained from the Research and Ethics Review Committee of College of Medicine and Health Sciences, Hawassa University, Ethiopia. Permission letter was obtained from Research and community service directorate of the College of Medicine and Health Sciences and submitted to Hawassa University Comprehensive Specialized Hospital. Study participants were informed about their rights to interrupt the interview at any time and written informed consent was obtained from each study participant. Confidentiality was maintained at all levels of the study. HIV-positive subjects who were found to have moderate to severe common mental disorder were referred to psychiatry clinics for further investigations.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.
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