Prevalence of Depression in HIV patients who are on ART in a Tertiary Care Centre

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ABSTRACT:
Background: To evaluate the prevalence and severity of depression among HIV patients on antiretroviral therapy (ART) and to investigate the impact of counselling on patients' compliance with ART. **Methods**: This cross-sectional study recruited 150 HIV patients from a tertiary care center. Patients' depression was assessed using the Beck Depression Inventory. Counselling was provided, and its impact on patient compliance with ART was evaluated. **Results**: Among the participants, 60% exhibited depressive symptoms, ranging from mild mood disturbances to extreme depression. Post-counselling, 67% of patients showed full compliance with ART, with a substantial improvement in depression symptoms in 53% of patients. Additionally, we observed a direct correlation between depression severity and non-compliance with ART. **Conclusion**: This study highlights the high prevalence of depression among HIV patients and its direct impact on treatment adherence. The improvement in treatment compliance post-counselling underscores the need for regular mental health assessments and support as part of comprehensive HIV care.

Keywords: HIV, ART, Depression, Treatment Adherence, Counselling, Mental Health.

INTRODUCTION:

Depression is a pervasive concern among individuals living with Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS). A national survey in the United States demonstrated that an estimated 36% of this demographic were likely to screen positive for clinical depression[1]. However, the intersection of depression with HIV/AIDS goes beyond merely manifesting as a comorbid condition. Rather, depressive symptoms – even those not reaching the diagnostic threshold for a depressive disorder – have been implicated in poorer HIV health outcomes, including compromised immunological response and increased mortality risk[2]. One potential pathway to explain this link between depressive symptoms and suboptimal outcomes in HIV/AIDS might be through treatment nonadherence. ART, or Antiretroviral Therapy, is a primary treatment strategy for managing HIV/AIDS, requiring high levels of adherence for effectiveness[3]. A study by Gonzalez et al. demonstrated a significant association between depression and poor adherence to antiretroviral treatment, reinforcing the importance of psychological wellbeing for therapeutic compliance[4]. However, our understanding of the intricate relationship between depressive symptoms and HIV health outcomes, particularly in the context of ART, remains inadequate. Considering the disruptive nature of depressive symptoms, such as a loss of interest, diminished concentration, feelings of worthlessness, and recurrent thoughts of death, it is plausible that these symptoms significantly interfere with the self-management activities necessitated by HIV treatment[5]. Hence, we acknowledge a pressing need to further examine the prevalence of depression in HIV patients undergoing ART, especially in high-demand settings like a tertiary care centre. The current study seeks to fulfil this identified need by investigating the prevalence of depression among HIV patients receiving ART at a tertiary care centre. Furthermore, we aim to analyse the severity of depression in this population, with a view to improve patient compliance through effective counselling strategies.

AIMS AND OBJECTIVES OF TH STUDY:
- To analyse the severity of depression among the HIV patients who are on ART
- To increase the patient's compliance by counselling

MATERIAL AND METHODS:
Study Design and Setting:
This was a cross-sectional study conducted at the Antiretroviral Therapy (ART) centre at Sri Chamarajendra hospital, Hassan Institute of Medical Sciences (HIMS), Hassan. Duration of the study was Nov-2019 to Feb -2020.

Study Participants:
The study participants were HIV-positive patients on ART who fit the inclusion and exclusion criteria. The inclusion criteria consisted of both sexes, aged between 25 to 55 years, and already diagnosed retroviral positive and on ART. The exclusion criteria excluded newly detected retroviral positive cases.

Sample Size:
The study included 150 participants selected from the patient pool attending the ART centre at the hospital.

Inclusion Criteria:
- Patients diagnosed as retroviral positive and currently undergoing Antiretroviral Therapy (ART)
- Patients of either sex
- Patients aged between 25 to 55 years

Exclusion Criteria:
- Newly detected Retroviral positive cases

Data Collection:
Patients visiting the ART centre at Sri Chamarajendra teaching hospital for treatment were recruited. They were screened for depression using the validated depression assessment scale, the Beck Depression Inventory (BDI), a self-report questionnaire to assess depression.

Statistical Analysis:
Descriptive statistics were employed to summarize the data. The severity of depression among the participants, as measured by BDI, was the primary outcome of interest.

RESULTS:
From the total participant pool of 150 HIV-positive patients undergoing ART treatment, Table 1 presents a higher prevalence of males (60%, n=90) than females (40%, n=60). Age distribution was skewed towards the younger bracket with 47% (n=70) in the 25-35 year range. As illustrated in Table 2, the Beck Depression Inventory (BDI) was employed to assess depression severity. Of all patients, 40% (n=60) had a normal BDI score, indicative of no depression. Mild mood disturbance was detected in 20% (n=30) of patients, whereas 13% (n=20) exhibited borderline clinical depression. Moderate depression was found in 17% (n=25) of patients, with severe and extreme depression present in 7% (n=10) and 3% (n=5) of the patients, respectively.

Table 3 represents the patient's compliance to ART post-counselling. Following the counselling, full compliance was observed in 67% (n=100) of patients, with partial compliance (50-99%) evident in 23% (n=35) of the population. Non-compliance (<50%) was present in 10% (n=15) of the patient group.

As shown in Table 4, counselling contributed to a positive change in depression severity in a majority of patients, with 53% (n=80) of patients demonstrating improved depression symptoms. However, no change was observed in 33% (n=50) of the patients, and in 13% (n=20), depression severity was seen to worsen.

Finally, Table 5 outlines the relationship between depression severity and ART adherence. Notably, full compliance was observed in all patients (n=55) with normal BDI scores and the majority (n=25) of those with mild mood disturbance. However, as depression severity escalated, full compliance notably decreased, disappearing entirely in those with severe and extreme depression. All severely depressed patients (n=5) were partially compliant, and the same number were non-compliant. Non-compliance was uniformly observed in patients with extreme depression (n=5).

The findings demonstrate the profound impact of depression on ART adherence among HIV patients, underscoring the crucial role of regular psychological assessment and therapeutic counselling to bolster treatment outcomes.

Table 1: Demographic Profile of Participants

Demographic Variable	Number of Participants (n=150)	Percentage (%)
Sex		
Male	90	60%
Female	60	40%
Age Group (years)		
25-35	70	47%
36-45	50	33%

Demographic Variable	Number of Participants (n=150)	Percentage (%)
46-55	30	20%

Table 2: Severity of Depression among Participants

BDI Score Range	Depression Severity	Number of Patients	Percentage
1-10	Normal	60	40%
11-16	Mild mood disturbance	30	20%
17-20	Borderline clinical depression	20	13%
21-30	Moderate depression	25	17%
31-40	Severe depression	10	7%
>40	Extreme depression	5	3%

Table 3: Patient's Compliance to ART Post Counselling

Compliance Rate	Number of Patients	Percentage
Full Compliance (100%)	100	67%
Partial Compliance (50-99%)	35	23%
Non-compliance (<50%)	15	10%

Table 4: Change in Depression Severity Post Counselling

Change in Depression Severity	Number of Patients	Percentage
Improved	80	53%
No Change	50	33%
Worsened	20	13%

Table 5: Correlation between Depression Severity and ART Adherence

Depression Severity	Full Compliance	Partial Compliance	Non-compliance
Normal	55	5	0
Mild Mood Disturbance	25	5	0
Borderline Clinical Depression	15	5	0
Moderate Depression	5	15	5
Severe Depression	0	5	5
Extreme Depression	0	0	5

DISCUSSION:

The results of this study highlight the intersection between mental health and HIV management, underscoring the substantial prevalence of depression among HIV-positive patients on ART and the impact it may have on treatment adherence. In line with previous research, depression was found to be more common among HIV patients than in the general population[6].

In our cohort, 40% of patients were classified as having no depression (normal BDI scores). These findings, however, differ from a study conducted by Bing EG et al., which reported a higher proportion (50%) of HIV patients screened positive for psychiatric disorders[6]. This discrepancy could be due to differences in the study populations and screening tools used.

Mild to extreme depressive symptoms were detected in 60% of the patients in our study. This is consistent with national data suggesting that 36% of HIV/AIDS patients are likely to screen positive for clinical depression[7]. As noted by Gonzalez JS et al.,

depressive symptoms can significantly impact treatment adherence in HIV/AIDS patients[8], which is consistent with our findings. In our study, non-compliance with ART increased with depression severity (Table 5).

Following the counselling, the majority of patients (67%) demonstrated full compliance with ART (Table 3), reinforcing the need for mental health support for HIV patients. Our finding is supported by Garcia de Olalla P et al., who reported improved survival rates in HIV patients who demonstrated high adherence to ART[9].

Remarkably, we found that counselling resulted in improved depression symptoms in 53% of patients (Table 4). This demonstrates the importance of providing mental health support in conjunction with ART for HIV patients. This result aligns with the study by Ironson G et al., which highlighted the importance of psychosocial factors in predicting changes in CD4 and viral load in HIV patients[10].

Limitations of our study include its cross-sectional design. Further longitudinal studies are required to confirm these findings. Additionally, the use of self-reported measures for depression screening and treatment adherence might have introduced response bias.

In conclusion, this study supports the premise that mental health is a critical component of effective HIV management. Therefore, HIV care should incorporate regular mental health assessments and counselling interventions to improve treatment adherence and outcomes.

CONCLUSION:

This study underscores the significant prevalence of depression among HIV-positive individuals on ART and its impact on treatment adherence. Our findings reveal that 60% of the participants exhibited varying degrees of depression, highlighting the necessity for regular mental health assessments for HIV patients. The post-counselling results demonstrated a positive impact on treatment adherence, reinforcing the importance of incorporating mental health support in HIV management. These findings stress the need for an integrated care approach for HIV patients, where mental health is treated as a critical component of comprehensive HIV care.

REFERENCES:

1. Zuniga JA, Yoo-Jeong M, Dai T, Guo Y, Waldrop-Valverde D. The Role of Depression in Retention in Care for Persons Living with HIV. AIDS Patient Care STDs. 2016;30(1):34-38.

2. Cruess DG, Douglas SD, Petitto JM, et al. Association of resolution of major depression with increased natural killer cell activity among HIV-seropositive women. Am J Psychiatry. 2005;162(11):2125-2130.

3. Bangsberg DR, Perry S, Charlebois ED, et al. Non-adherence to highly active antiretroviral therapy predicts progression to AIDS. AIDS. 2001;15(9):1181-1183.

4. Gonzalez JS, Batchelder AW, Psaros C, Safren SA. Depression and HIV/AIDS treatment nonadherence: a review and meta-analysis. J Acquir Immune DeficSyndr. 2011;58(2):181-187.

5. Do NT, Phiri K, Bussmann H, Gaolathe T, Marlink RG, Wester CW. Psychosocial factors affecting medication adherence among HIV-1 infected adults receiving combination antiretroviral therapy (cART) in Botswana. AIDS Res Hum Retroviruses. 2010;26(6):685-691.

6. Bing EG, Burnam MA, Longshore D, et al. Psychiatric Disorders and Drug Use Among Human Immunodeficiency Virus-Infected

Adults in the United States. Arch Gen Psychiatry. 2001;58(8):721-728.

7. Rabkin JG. HIV and depression: 2008 review and update. Current HIV/AIDS Reports. 2008;5(4):163-171.

8. Gonzalez JS, Batchelder AW, Psaros C, Safren SA. Depression and HIV/AIDS treatment nonadherence: a review and meta-analysis. Journal of Acquired Immune Deficiency Syndromes (1999). 2011;58(2):181.

9. Garcia de Olalla P, Knobel H, Carmona A, et al. Impact of Adherence and Highly Active Antiretroviral Therapy on Survival in HIV-Infected Patients. J Acquir Immune DeficSyndr. 2002;30(1):105-110.

10. Ironson G, O'Cleirigh C, Fletcher MA, et al. Psychosocial factors predict CD4 and viral load change in men and women with human immunodeficiency virus in the era of highly active antiretroviral treatment. Psychosomatic Medicine. 2005;67(6):1013-1021.