

## Patterns of Psychiatric Co-Morbidities In Patients of Hiv/Aids on Anti Retroviral Treatment

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### Abstract:

**Back ground:** WHO data highlights that globally 36.7 million people are living with HIV. There is sparse literature on mental health research in HIV/AIDS from developing countries such as India.

**Aims:** To study patterns of psychiatric co-morbidities and associated factors in patients of HIV/AIDS on Anti retroviral treatment.

**Methods:** This was an analysis of patients with diagnosis of HIV/AIDS on Anti retroviral treatment referred to psychiatry opd services. The duration of study was past one Year. Institution Ethics committee clearance was obtained and data was analyzed with SPSS 17 software. Variables such as demographic factors, co-morbid substance abuse, psychiatric co-morbidity, source of referral, neurological and medical co-morbidity, psychopharmacological and psychotherapeutic intervention were analyzed.

**Results:** The study found 14 patients of HIV/AIDS patients who had been referred for outpatient psychiatric consultation over past 1 year, on regular anti retroviral treatment. Mean age of the sample was 47.8 years with equal sex profile. Around 57.2% patients were from urban areas and 42.8% of the patients were from rural areas. Majority (45.7%) of the patients were primary educated. Out of the sample 50.6% of the patients were married. Most common Neurological and medical co-morbidity were seizure (28.6%) and Tuberculosis (42.8%) respectively. Psychiatric diagnosis analysis revealed that 60.5% patients had Depressive disorders, 21.5% had Psychosis (Organic Psychosis), 7.1% had AIDS related dementia, 7.1% had substance use with personality disorders and 3.8% had a manic episode. Maximum source of referral were from department of medicine (35.7%) and NGO (28.6%). The most commonly prescribed drugs were Escitalopram (5 mg to 20 mg, 60.3%), Olanzapine (5 mg to 20 mg, 25.5%) Donepezil (5 mg to 23.5 mg, 7.1%) Sodium Valproate (500 mg to 1000 mg, 7.1%). More than 80% of the patients received a combination of medications and counselling, the type of counselling for psychological reference were supportive psychotherapy, cognitive behaviour therapy psychoeducational counselling and family therapy.

**Conclusion:** Consultation Liaison psychiatry in arena of mental health and HIV/AIDS in terms of service development and utilization are needed.

**Keywords:** Psychiatric co-morbidities, HIV/AIDS, Antiretroviral treatment

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### I. Background

The HIV/AIDS epidemic remains among the most significant challenges to public healthcare systems worldwide. Globally, 36.7 million [34.0–39.8 million] people were living with HIV at the end of 2015.<sup>[1]</sup> The onset of mental health problems may manifest across a spectrum from the time HIV is diagnosed to starting the treatment and the terminal care phase.<sup>[2]</sup> HIV can have direct effects on the brain that may lead to neurocognitive disturbances, mood disorder, psychosis or behavioural changes. Some of the drugs used in HAART ( efavirenz and nevirapine) are known to be associated with psychiatric side effects.<sup>[3]</sup> Although HIV AIDS being a big public health problem worldwide, limited data is available regarding association of HIV and psychiatric co-morbidity from developing countries such as India. Therefore this study was undertaken to evaluate the association between HIV/AIDS and psychiatric co-morbidity in an Indian setting.

### Aims

To study patterns of psychiatric co-morbidities in patients of HIV/AIDS on Anti retroviral treatment

### II. Materials And Methods

This was a cross sectional survey carried out at the Department of Psychiatry, MGM Medical College, Navi Mumbai. Consecutive out-patients referred for psychiatric consultation with diagnosis of HIV/AIDS on antiretroviral treatment meeting the eligibility criteria were interviewed using a pre-designed data collection form. The duration of study was past one year. Informed consent and institutional ethical clearance were

obtained. Variables such as demographic factors, co-morbid substance abuse, psychiatric co-morbidity, source of referral, neurological and medical co-morbidity, psychopharmacological and psychotherapeutic intervention were analyzed. Data was analyzed using appropriate statistical tests and spss 17 software.

### III. Results

The study found that a total of n=14 patients of RVD on regular ART had been referred for outpatient psychiatric consultation over past 1 year. Mean age of the sample profile was 47.8 years with sex profile being 50% male and 50% females. Around 57.2% patients were from urban areas and 42.8% of the patients were from rural areas. The education profile of patient being 45.7% primary educated, 11.4% of the patient secondary educated, 28.6% of them being graduate and 14.3% of the patients studied till post graduate. Majority of the patients were housewives, other profiles being unemployed patients, students, salaried workers and Retired patients. About 7.1% of the patient belonged to class I, 21.4% CLASS II, 35.7% class III and 35.8% of the patient belonged to class IV of BG Prasad socio economic classification. Out of the sample 42.3% of the patients were never married, 50.6% were married and 7.1% of the patient were divorced. Mean duration of the illness was 10±4years, and patients were on ART regimen of 2NRTI+NNRTI(42.3%), 2NRTI+PI(35.7%), 2NRTI+INTEGRASE INHIBITOR(22%).Most common Neurological and medical co-morbidity were seizure(28.6%) and Tuberculosis(42.8%) respectively with 28.6% of the patients had no additional co-morbidity. Psychiatric diagnosis analysis revealed that 60.5% patients had Depressive disorders, 21.5% had Psychosis (Organic Psychosis) ,7.1% had AIDS related dementia and 7.1% had substance use with personality disorders and 3.8 % had a manic episode. Maximum source of referral were from department of medicine (35.7%) and NGO (28.6%). Department of neurology and department of obstetrics and gynaecology contributed 14.3% and 21.4% each for the referral. The most common prescribed drugs profile in the sample were Escitalopram (5 mg to 20 mg,60.3%), Olanzapine (5 mg to 20 mg,25.5%) Donepezil ( 5 mg to 23.5 mg,7.1% ) Sodium Valproate (500 mg to 1000 mg,7.1%).More than 80% of the patients received a combination of medications and counselling ,the type of counselling for psychological reference were supportive psychotherapy,cognitive behaviour therapy psychoeducational counselling and family therapy.

### IV. Observation And Results

**Table-1:** socio-demographic profile of the patients

Socio-demographic variables of the patients.		N=14	(%)
AGE	<18	3	21.5%
	19-35	4	28.6%
	36-50	6	42.8%
	>50	1	7.1%
SEX	MALE	7	50%
	FEMALE	7	50%
EDUCATION	PRIMARY	7	45.7%
	SECONDARY	1	11.4%
	GRADUATE	4	28.6%
	POSTGRADUATE	2	14.3%
MARITAL STATUS	NEVER MARRIED	7	42.6%
	MARRIED	6	50.3%
	SEPERATED/DIVORCED	1	7.1%

**Table-1(cont.); Socio-Demographic Profile of The Patients.**

Socio-demographic variables of the patients.		N=14	(%)
INCOME	I	1	7.1%
	II	3	21.4%
	III	5	35.7%
	IV	5	35.8%
RESIDENCE	URBAN	8	57.2%
	RURAL	6	42.8%
EMPLOYMENT	UNEMPLOYED	3	21.4%
	STUDENTS	3	21.5%
	SALARIED WORKERS	3	21.4%
	HOUSEWIFES	4	28.6%
	RETIRED	1	7.1%

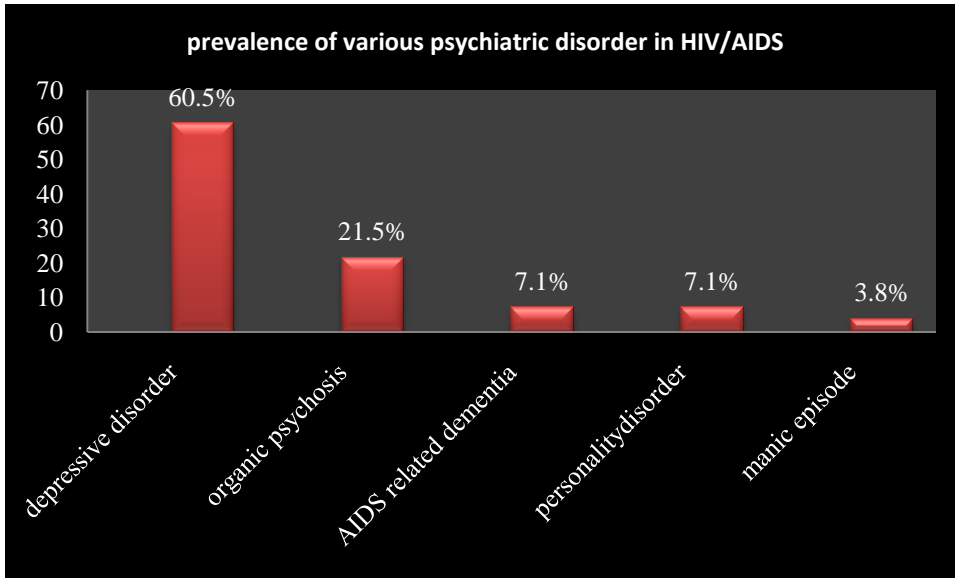


Chart 1: Prevalence of various psychiatric disorders in HIV/AIDS

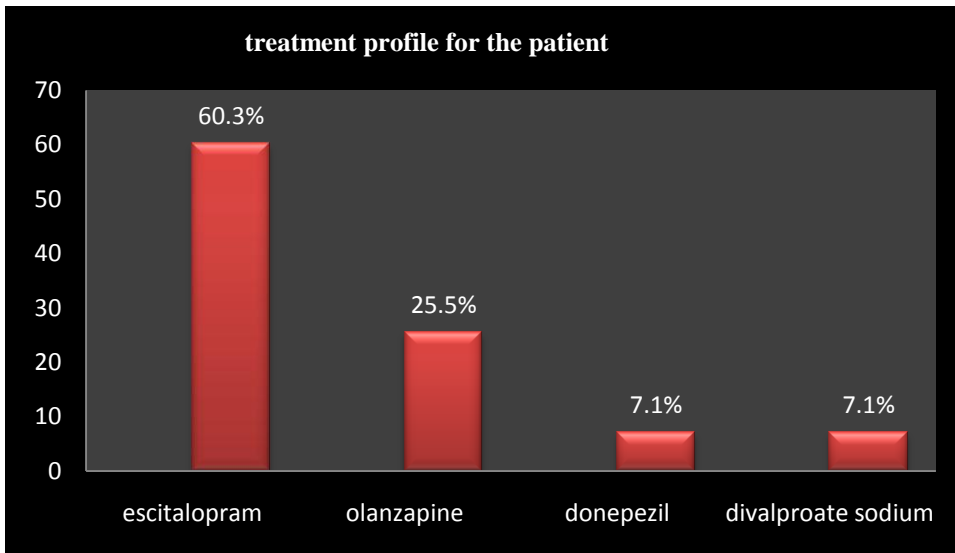


Chart 2: Treatment profile for the patient

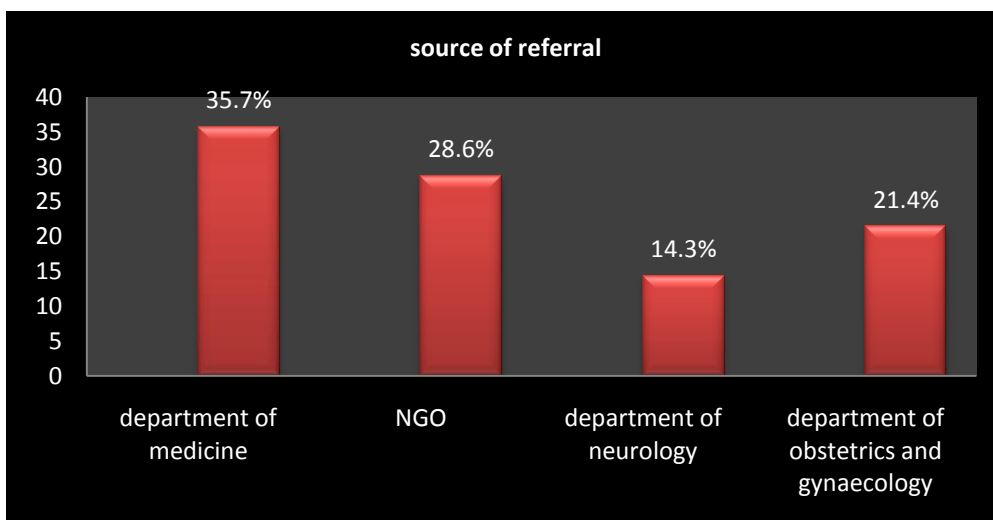


Chart 3: sources of referral

## V. Discussion

HIV/AIDS is a devastating illness that humans have ever faced, associated psychiatric co-morbidities in HIV/AIDS patients are very common but the factors affecting it are not well studied. Literature describes it to be a highly stigmatized, chronic disease with a substantial co-occurrence of mental health problems.<sup>[4]</sup> Literature highlights that patients with mental health problems are at increased risk of contracting HIV and HIV-infected patients are at increased risk of developing mental health problems compared with the general population.<sup>[5]</sup> Mental health problems in HIV-infected patients have a negative influence on the overall treatment, adherence to treatment, and prognosis of the HIV-infection.

We found that 60.5% patients had Depressive disorders in our study. Existing studies have shown that emotional problems are among the most common symptoms in HIV patients with up to 98.6% prevalence.<sup>[6]</sup> Depression is a prevalent comorbidity in HIV infection as well as a recognized side-effect of NRTI, Protease inhibitors and NNRTIs. HIV infected individuals can be at a high risk of depression and self harm in the period immediately after being diagnosed with a seropositive status, especially if they have a significant past psychiatric history.<sup>[7]</sup> Our findings are also consistent with the study of Bhatia et al who found that the prevalence of depression in patients in their study with HIV under ART was 58.75%. Mood disorders, depression in particular, are the most frequent psychiatric disorder associated with HIV disease. The lifetime prevalence of depressive disorders can range from 22% to 61% in HIV-positive populations in certain studies. These rates are significantly higher than estimates of lifetime and current diagnosis of major depression in community samples.<sup>[8]</sup>

We also found that 21.5% of the patients in our study had Organic Psychosis. Navia and Price found that 15% of 46 patients in their study with HAD experienced psychotic symptoms.<sup>[9]</sup> Psychotic symptoms seen in HIV-infected individuals may be primary or secondary.<sup>[10]</sup> Occasionally psychotic symptoms may be the presenting complaints of an HIV illness.<sup>[11]</sup> Primary psychosis does not yield any signs of HIV cerebral disease whereas secondary psychosis often occurs in the context of global (encephalopathy) or localized pathology (most often lesions of the left temporal lobe and diencephalon). Other factors that need to be considered in the differential diagnosis include presence of opportunistic infections like tuberculoma, toxoplasmosis and cryptococcal meningitis, which may present as acute psychosis in the initial stages. Drugs like INH can also contribute to psychosis and co-occurrence of neurosyphilis may also lead to psychosis.<sup>[12]</sup>

In our study 7.1% of the patients had AIDS related dementia. HIV can be isolated from the cerebrospinal fluid (CSF) and can also be found in brain tissue, which suggests that the virus can cross the blood-brain barrier.<sup>[13]</sup> Sacktor et al reported that when monotherapy was a mainstay of treatment (between 1990 and 1992), the mean incidence of HAD was 21.1 cases per 1000 person-years, whereas when highly active antiretroviral therapy (HAART) became the norm (between 1996 and 1998), the mean incidence of HAD decreased significantly, to 10.5 cases per 1000 person-years.<sup>[14]</sup> Neurocognitive deficits are manifestations of both direct and indirect effects of HIV on the CNS.<sup>[15]</sup> HIV/AIDS patients with advanced disease can present with deficits in many cognitive domains.<sup>[16]</sup> As the disease progresses, additional cognitive domains often become impaired. Executive functions such as Attention, concentration and working memory are affected. Learning and memory can also be impaired in HIV/AIDS.<sup>[17]</sup>

In our study the prevalence of personality disorder was low at 7.1% this can be attributed to a smaller sample size along with the preponderance of elderly patients in our sample. Perkins et al, found a significantly higher prevalence of personality disorder in the HIV-positive (33%) than in the HIV-negative (15%). Among HIV-positive subjects, those with a personality disorder compared to those without a personality disorder shows significantly greater mood disturbance, experience greater dysphoria and are more likely to cope with the threat of AIDS in a dysfunctional way.<sup>[18]</sup> In our study 3.8 % of the patient had a manic episode, which support the findings of other authors that manic episodes can occur in HIV-AIDS patients in the course of illness. Lyketsos et al found that in early HIV infection, 1%–2% of patients experience manic episodes.<sup>[19]</sup> However, after the onset of AIDS, 4%–8% of patients appear to experience mania.<sup>[20]</sup> Mania or manic symptoms can be direct effect of the illness, effect of HAART drugs, or as a reaction to disclosure of the diagnosis.<sup>[21]</sup> Although manic episodes can occur early in the infection, it is more common in later phases of the infection, often associated with cognitive deficits and can be a presentation of HIV dementia or associated with psychosis.<sup>[13]</sup> NGO references contributed to 28.6% which supports the existing literature that Non-governmental organizations (NGOs) play a significant role in helping bridge the gap between hospital based health services and the community, Their activities have included treatment, rehabilitation, community care, and above all awareness regarding the need for timely intervention once a psychiatric disorder sets in a HIV/AIDS patients.<sup>[22]</sup>

The limitations of the study being that we had a small sample size and a smaller period of data collection over 1 year. It was a hospital based study and the smaller sample size represents the patterns of references from concerned medical departments and community. Despite existence of mental health services, the overall references to psychiatry have been underutilized. This could be due to prevalent stigma and attitudes towards mental illness, misconceptions regarding reference and treatment modalities etc.

## Implications

Our study has research and clinical implications. Further studies with better methodology and longer periods of study with better designs are recommended. Future research can be directed towards assessing service and development related to factors in HIV AIDS and mental health. Factors such as stigma, culture, misconceptions, attitudes towards psychiatric consultation in HIV/AIDS can be studied further. From a clinical point of view, focus on consultation liaison psychiatry and mental health services for patients with HIV/AIDS are recommended. Community based mental health care models for HIV/AIDS can be considered for further clinical research.

## VI. Conclusion

In our study we found that depression was the most common psychiatric diagnosis and escitalopram was the most common drug prescribed and combination of psychotherapy and pharmacotherapy was the most common intervention given. Department of medicine and NGOs contributed maximally towards psychiatric consultation in our setting. We conclude that further research and consultation liaison psychiatry service in this complex arena of HIV/AIDS and mental health are recommended.

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