

A STUDY OF PERSONALITY PROFILE AND PSYCHIATRIC MORBIDITY IN PEOPLE LIVING WITH HIV/AIDSA. Niranjana Devi¹, R. Muralitharan², R. Sharmila³**HOW TO CITE THIS ARTICLE:**

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ABSTRACT: HIV infection and psychiatric disorders have a complex relationship. Being HIV infected could result in psychiatric disorders as a psychological consequence of the infection (or) because of the effect of HIV virus on the brain. **AIM:** To evaluate the personality profile and associated psychiatric co morbidity of people living with HIV/AIDS and to analyze the correlation between the two in a tertiary care center. **MATERIALS & METHODS:** PLWHA on ART irrespective of WHO-clinical staging, CD4 count, and duration of medication were subjected for study. The socio-demographic data, Kuppusamy's revised socio economic status scale and Eysenck personality questionnaire. Revised were administered to study population. ICD 10 clinical and diagnostic criteria were used to diagnose current and past psychiatric disorders. Data were analyzed using appropriate statistical methods. **RESULTS:** In total 50 study subjects, 12(24%) were diagnosed to have psychiatric morbidity. Further, 26% among males (5 out of 19 males) and 24% among females (7 out of 29 females) were found to have psychiatric morbidity. Mood disorders were the common diagnosis in our study group which comprises about 58% (7 out of 12). Other diagnoses noted in the study were substance dependence (Alcohol, nicotine 16.6%), non-organic insomnia (16.6%) and delusional disorder (8.3%). In personality profile assessment, 72% of study population exhibited psychotic traits, 42% showed high neurotic traits and 18% scored high in High Extravert traits. **CONCLUSION:** Prevalence of psychiatric disorder (24%) is similar to other reported studies. Even though females demonstrated higher mood disorder there is no gender difference in psychiatric morbidity. Staging of HIV illness showed significance in psychiatric morbidity. No significant personality profile was found. Most of them expressed mixed personality traits.

KEYWORDS: HIV, Mental Illness, Personality, Depression.

INTRODUCTION: India's HIV/AIDS prevalence is second in the world only to South Africa. Most of the HIV infections in India are due to sexual transmission (84–86%). In the north east, however, injectable drug use is the main mode of transmission.

Psychological and psychiatric issues associated with HIV infection have received considerable attention in the last decade. The relationship between HIV–AIDS and psychiatric disorders is well recognized to be both uni and bi-directional, and influenced by a variety of factors like stigma & discrimination, educational level, concurrent substance abuse, family support, neurocognitive disturbances, opportunistic infections and medication side effects, treatment adherence and course of HIV infection.¹ The introduction of highly active antiretroviral therapy (HAART) has transformed the HIV infection from a quickly fatal to a chronic disease is another contributing variable.²

There are several ways in which HIV infection and psychiatric disorders are linked:

1. HIV infection owing to its malignant course and the associated stigma often results in emotional reaction of a serious nature among those infected.

2. The HIV has direct effect on the brain that may lead to neurocognitive disturbance and psychosis.
3. Opportunistic neurological and systemic infections and their treatment may lead to neuropsychiatric problems.
4. Some of the drugs used in HAART are known to be associated with psychiatric side effects.
5. Persons with severe mental illness are known to be vulnerable to HIV infection and there are special management concerns in this population.
6. Substance abuse and HIV are linked in direct ways (Intravenous drug use IVDU) and in indirect ways by their influence on sexual behavior.
7. Treatment adherence and course of illness have been found to be influenced by emotional factors and substance use.

A person may react to a HIV positive test with a syndrome similar to PTSD,³ (or) may have severe distress on hearing about the HIV positive status. During asymptomatic period adjustment disorder, depression, substance use disorder and personality problems are common. During symptomatic period,^{4,5} Depression,^{6,7} and organic brain syndrome are common problems.

Factors prone for the development of psychiatric disorders have been studied:

1. HIV related factors – Psychiatric disorders are more likely to occur at two high risk periods the one immediately within 6 months after disclosure of HIV positive status & other at the onset of physical complications of AIDS.⁵
2. Socio demographic factors—older individuals may be at higher risk of HIV Dementia/minor cognitive disorder. Substance users have poor psychological status, coping skills, social and family problems even prior to acquiring infection.⁸
3. Personality factors – aspects of individuals personality such as sensation seeking, compulsivity, less effective coping skills leads to high risk sexual behavior. Some studies show that persons with antisocial personality disorder & borderline disorder are at high risk of acquiring HIV infection (Golding et al.,⁹ Perkin et al.,¹⁰).
4. Past psychiatric history—presence of psychiatric morbidity in the past favors emergence of psychiatric problems. Association between previous psychiatric diagnoses and present psychiatric problem in HIV positive patients has been noticed by catalan et al.¹¹
5. Social support—Inadequate social support like lack of support from family, friends, social isolation leads to high prevalence of psychiatric disorders (kelly et al.,¹²1998).
6. Life events—loss of spouse, survivors guilt, health deterioration, loss of job and financial problems are fuel for the development of psychiatric problems in vulnerable population (Cohen et al.,¹³sherr et al.,¹⁴fishman et al.¹⁵

In previous meta analytical studies, prevalence rates of 20-50% depressive symptoms, 4-23% for major depressive disorder (MDD), up to 13% for dysthymia and 2-40% substance abuse/dependence,¹⁶⁻¹⁸ were reported HIV studies from the US have reported annual prevalence of 47.9% for psychiatric disorders MDD in 36%, Dysthymia in 26.5%, generalized anxiety disorder in 15.8% panic attacks in 10.5% substance abuse in 21% and dual diagnosis in 8% subjects.^{19,20}

While in Indian scenario, Jacob²¹ reported 26.1% of the HIV infected individuals having psychiatric morbidity. Falstic,²² Seth²³ also reported high prevalence in their research. But studies by

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Atkinson et al.²⁴ 1988, Williams et al.²⁵ 1988 did not find any significance between HIV positive and negative groups with respect to the prevalence of psychiatric morbidity.

Eysenck (1947)²⁶ defined personality as “sum total of the actual (or) potential behavior patterns of the organism as determined by heredity and environment. He included four main sectors of behavior patterns:

1. Cognitive sector (Intelligence) 3. Effective sector (Temperament).
2. Conative sector (Character) 4. Somatic sector (Constitution).

Eysenck describe extraversion as impulsive behavior with social tendencies, craves for excitement.

Neuroticism refers to general emotional over responsiveness, liability to breakdown under stress, instability, in adaptability, weak dependable attitude narrow interest.

In a study of Mohan and Bedi,²⁷ results indicate that no differences were found on extraversion in both HIV positive and negative people. HIV positive males scored higher than females in neuroticism.

The existing psychiatric research on HIV-AIDS in India has focused mostly on co-prevalence of intravenous drug abuse and, to a lesser extent on psychiatric morbidity.^{28,29} With this background, the present study attempted to assess the personality profile and psychiatric morbidity in HIV positive outpatients.

METHODS:

Location, Ethical clearance, Design:

PLHIV attending the ART center, Mahatma Gandhi Memorial Government Hospital (MGMGH) attached to KAPV Govt Medical College, Tiruchirapalli were subjected for study

With ethical clearance, this time bound study involved cross sectional observation, a purposive sampling procedure, and onetime assessment of each subject.

SUBJECT: The subjects were, persons of >18 years of age group, with confirmed HIV test positivity and on ART as per the WHO criteria and National guideline irrespective of ART regimen, duration of illness or treatment, clinical staging or CD4 count, irrespective of gender and their educational status.

Patients with severe physical illness, cognitive impairment, less than age 18 were excluded from the study.

Informed consent was obtained from all patients.

Measures: Demographic proforma was used to record name, age, sex, marital status, living status, area of living and religious status.

Kuppasamy's socio economic status scale was applied to all subjects.

Cinical Profoma: Developed for the study, clinical proforma was used to collect the illness related details for the HIV group, HIV Staging, CD4 Count were taken into account. All individuals were assessed carefully using ICD-10diagnostic criteria to assess the psychiatric morbidity.

Eysenck personality questionnaire – Revised:

This form is a 90 item Yes/No Questionnaire out of which 21 items for assessing Extraversion, 23 items for assessing Neuroticism, 25 items for assessing Psychotic dimensions, 22 items constituting the Lie scale.

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Procedure: The consenting subjects meeting the inclusion and exclusion criteria were administered the demographic proforma, clinical proforma, Kuppusamy's Socio economic status scale, ICD-10 diagnostic criteria, Eysenck's personality Questionnaire - Revised. On average, 60-75 minutes was required for administering all instruments.

Statistical Analyses: Descriptive statistical data were analyzed by Percentage, Mean and Standard deviation. Results were analyzed using Chi-square test and correlations were made with Karl-Pearson test.

RESULTS: In the total study population (n=50), Male constitutes 19(38%), Female constitutes 29(58%), Transgender constitutes 2(4%). 94% of them were above the age of 25. (Table-1)

Sl. No.		Total		Sl. No.		Total	
		(n=50)	-100%			(n=50)	-100%
1	Age			5	Income		
	Below 25yrs	3	6.00%		Below Rs.1600	5	10.00%
	26 to 35yrs	17	34.00%		Rs.1601 to 4809	30	60.00%
	36 to 45yrs	23	46.00%		Rs.4810 to 8009	12	24.00%
	46yrs & above	7	14.00%		Rs.8010 to 12019	3	6.00%
2	Sex			6	Socio economic status		
	Male	19	38.00%		Middle\lower middle	3	6.00%
	Female	29	58.00%		Lower\upper lower	38	76.00%
	Transgender	2	4.00%		Lower	9	18.00%
3	Education			7	Marital status		
	Illiterate	11	22.00%		Married	39	78.00%
	Primary school	13	26.00%		Unmarried	4	8.00%
	Middle school	14	28.00%		Widow	7	14.00%
	High school	9	18.00%	8	Living status		
	Diploma	2	4.00%		Nuclear family		
	UG & PG	1	2.00%		Joint family	24	48.00%
4	Occupation			9	Area of living		
	unemployed	11	22.00%		Rural		
	Unskilled worker	11	22.00%		Urban	14	28.00%
	Semi-skilled worker	19	38.00%	10	Religion		
	Skilled worker	8	16.00%		Hindu	43	86.00%
	Semi-profession	1	2.00%		Muslim	2	4.00%
					Christian	5	10.00%

Table 1: Socio Demographic Profile

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This study group showed 24% (n =12) of psychiatric disorders of which males had 10% (n=5) and females had 14% (n=7). Psychiatric morbidity was absent in 28% of males (n=14), 44% females (n=22), and in transgender (n=2). Patients below the age of 25 were not having any psychiatric morbidity. Patients above the age of 45 had 57% of psychiatric morbidity. All the patients with psychiatric morbidity were from lower socioeconomic status in which upper lower socioeconomic status constitutes 83.37%. Married individuals constitutes 83.3% of persons with psychiatric morbidity remaining 16.7% was contributed by widows. Unmarried persons didn't show psychiatric morbidity. 66.6% patients from nuclear family found to have psychiatric morbidity. With respect to family setup, 30% of the patients from nuclear family exhibited psychiatric morbidity and 16.6% of patients from joint family exhibited psychiatric morbidity. In the study 25% Hindus & 20% of Christians were found to have psychiatric morbidity. 19.4% rural population and 35.7% of urban population exhibited psychiatric morbidity. (Table-2)

S.NO		Total		S.NO		Total	
		(n=12)	-100%			(n=12)	-100%
1	Age			5	Income		
	Below 25yrs	Nil	0.00%		Below Rs.1600	Nil	0.00%
	26 to 35yrs	4	33.33%		Rs.1601 to 4809	10	83.33%
	36 to 45yrs	5	41.65%		Rs.4810 to 8009	1	8.33%
	46yrs & above	3	25.00%		Rs.8010 to 12019	1	8.33%
2	Sex			6	Socio economic status		
	Male	5	41.65%		Middle\lower middle	Nil	0.00%
	Female	7	58.33%		Lower\upper lower	10	83.33%
	Transgender	Nil	0.00%		Lower	2	16.67%
3	Education			7	Marital status		
	Illiterate	3	25.00%		Married	10	83.33%
	Primary school	6	50.00%		Unmarried	Nil	0.00%
	Middle school	3	25.00%		Widow	2	16.67%
	High school	Nil	0.00%	8	Living status		
	Diploma	Nil	0.00%		Nuclear family	8	66.67%
	UG & PG	Nil	0.00%		Joint family	4	33.33%
4	Occupation			9	Area of living		
	unemployed	1	8.33%		Rural	7	58.33%
	Unskilled worker	3	25.00%		Urban	5	41.65%
	Semi-skilled worker	7	58.33%	10	Religion		
	Skilled worker	1	8.33%		Hindu	11	91.67%
	Semi-profession	Nil	0.00%		Muslim	Nil	0.00%
				Christian	1	8.33%	

14% of study population had mood disorder which is constitutes 58% of psychiatric morbidity (n=7) among the mood disorders, 42.8% (n=3) diagnosed to have depressive illness &

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42.8% (n=3) diagnosed to have dysthymia 14.2% had bipolar illness. Depressive disorder was seen only in female patients. Among male patients with psychiatric disorder 10.5% of males found to have mood disorders, 10.52% of male patients exhibited substance dependence. (table-3)

		DEMOGRAPHIC PROFILE OF PATIENTS WITH PSYCHIATRIC MORBILITY									Statistical inference
		NA	Depressive episode moderate	Dysthymia	Bipolar disorder in remission	Non organic insomnia	Delusional disorder	Alcohol dependence with other habit and impulse disorder	Nicotine dependence	Total	
		(n=38)-100%	(n=3)-(100%)	(n=3)-(100%)	(n=1)-(100%)	(n=2)-(100%)	(n=1)-(100%)	(n=1)-(100%)	(n=1)-(100%)	(n=50)	
Age	Below 25yrs	3(7.9%)	Nil	Nil	Nil	Nil	Nil	Nil	Nil	3(6.00%)	X ² =17.843 .659>0.05 Not Significant
	26 to 35yrs	13(34.20%)	2(66.70%)	1(33.30%)	Nil	Nil	Nil	1(100%)	Nil	17(34.00%)	
	36 to 45yrs	18(47.40%)	Nil	2(66.70%)	1(100%)	1(50%)	1(100%)	Nil	Nil	23(46.10%)	
	46yrs & above	4(10.50%)	1(33.30%)	Nil	Nil	1(50%)	Nil	Nil	1(100%)	7(14%)	
Sex	Male	14(36.80%)	Nil	1(33.30%)	1(100%)	1(50%)	Nil	1(100%)	1(100%)	19(38.00%)	X ² =8.310 .873>0.05 Not Significant
	Female	22(57.90%)	3(100%)	2(66.70%)	Nil	1(50%)	1(100%)	Nil	Nil	29(58.00%)	
	Transgender	2(5.30%)	Nil	Nil	Nil	Nil	Nil	Nil	Nil	2(4.00%)	
Socio economic	Middle\lower middle	3(7.90%)	Nil	Nil	Nil	Nil	Nil	Nil	Nil	3(6.00%)	X ² =7.946 Df=14 .892>0.05 Not Significant
	Lower\upper lower	28(73.70%)	2(66.70%)	3(100%)	1(100%)	2(100%)	Nil	1(100%)	1(100%)	38(76.00%)	
	Lower	7(18.40%)	1(33.30%)	Nil	Nil	Nil	1(100%)	Nil	Nil	9(18.00%)	
Marital	Married	29(76.30%)	3(100%)	3(100%)	1(100%)	1(50%)	Nil	1(100%)	1(100%)	39(78.00%)	X ² =11.230 Df=4 .668>0.05 Not Significant
	Unmarried	4(10.50%)	Nil	Nil	Nil	Nil	Nil	Nil	Nil	4(8%)	
	Widow	5(13.20%)	Nil	Nil	Nil	1(50%)	1(100%)	Nil	Nil	7(14%)	
Type of	Nuclear family	18(47.40%)	2(66.70%)	3(100%)	Nil	Nil	1(100%)	1(100%)	1(100%)	26(52%)	X ² =9.374 .227>0.05 Not Significant
	Joint family	20(52.60%)	1(33.30%)	Nil	1(100%)	2(100%)	Nil	Nil	Nil	24(48%)	
Area of	Rural	29(76.30%)	2(66.70%)	2(66.70%)	Nil	2(100%)	1(100%)	Nil	Nil	36(72%)	X ² =9.317 .231>0.05 Not Significant
	Urban	9(23.70%)	1(33.30%)	1(33.30%)	1(100%)	Nil	Nil	1(100%)	1(100%)	14(28%)	
Religion	Hindu	32(84.20%)	3(100%)	2(66.70%)	1(100%)	2(100%)	1(100%)	1(100%)	1(100%)	43(86%)	X ² =3.525 Df=14 .998>0.05 Not Significant
	Muslim	2(5.20%)	Nil	Nil	Nil	Nil	Nil	Nil	Nil	2(4%)	
	Christian	4(10.50%)	Nil	1(33.30%)	Nil	Nil	Nil	Nil	Nil	5(10%)	

Table 3

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21% of stage I HIV illness patient had psychiatric morbidity which constitutes 83% (n=10) of patients with psychiatric morbidity. 50% of stage II HIV illness & 100% stage III HIV illness expressed psychiatric morbidity which is statistically significant. (Table-4)

STAGING OF ILLNESS AND PSYCHIATRIC MORBIDITY										
Stage of HIV illness	NA	DEPRESSIVE DISORDER	DYSTHYMIA	BIPOLAR DISORDER	NON ORGANIC INSOMNIA	DELUSIONAL DISORDER	ALCHOL DEPENDENCE WITH ORTHER HABIT AND IMPULSE DISORDER	NICOTINE DEPENDENCE	TOTAL	STATISTICAL INFERENCE
I	37(97.4%)	2(66.7%)	3(100.0%)	1(100%)	2(100.0%)	0(.0%)	1(100.0%)	1(100.0%)	47(94.0%)	X²=40.580 Df=14.000 <0.05 Significant
II	1(2.6%)	0(.0%)	0(.0%)	0(.0%)	0(.0%)	1(100.0%)	0(.0%)	0(.0%)	2(4.0%)	
III	0(.0%)	1(33.3%)	0(.0%)	0(.0%)	0(.0%)	0(.0%)	0(.0%)	0(.0%)	1(2.0%)	
CD4 count										
1<250	3(7.9%)	1(33.3%)	0(.0%)	0(.0%)	0(.0%)	1(100.0%)	0(.0%)	0(.0%)	5(10.0%)	X²=41.057 Df=28 .053>0.05 Not Significant
250 to	16(42.1%)	1(33.3%)	0(.0%)	0(.0%)	2(100.0%)	0(.0%)	0(.0%)	0(.0%)	19(38.0%)	
500 to	15(39.5%)	1(33.3%)	1(33.3%)	0(.0%)	0(.0%)	0(.0%)	0(.0%)	1(100.0%)	18(36.0%)	
750 to 1000	3(7.9%)	0(.0%)	1(33.3%)	1(100.0%)	0(.0%)	0(.0%)	1(100.0%)	0(.0%)	6(12.0%)	
Above 1000	1(2.6%)	0(.0%)	1(33.3%)	0(.0%)	0(.0%)	0(.0%)	0(.0%)	0(.0%)	2(4.0%)	

Table 4

In relation to personality profile and psychiatric morbidity the extraversion group, ambiverts showed more psychiatric morbidity (75%). Among neurotics, highly neurotic sub group had high psychiatric morbidity (91.6%). Non organic insomnia is seen in patient with high neurotic no psychotic traits. Substance use disorder and delusional disorder were noted in patients with high neurotic and psychotic personality profile. (Table-5)

PERSONALITY PROFILE AND PSYCHIATRIC MORBIDITY										
EPQ psychosis	NA	DEPRESSIVE DISORDER	DYSTHYMIA	BIPOLAR DISORDER	NON ORGANIC INSOMNIA	DELUSIONAL DISORDER	ALCHOL DEPENDENCE WITH ORTHER HABIT AND IMPULSE DISORDER	NICOTINE DEPENDENCE	TOTAL	STATISTICAL INFERENCE
No Psychotic traits (<5)	13 (34.2%)	0 (.0%)	0 (.0%)	0 (.0%)	2 (100.0%)	0 (.0%)	0 (.0%)	0 (.0%)	15 (30.0%)	X²=9.273 Df=7 .234>0.05

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Psychotic traits (>5)	25 (65.8%)	3 (100.0%)	3 (100.0%)	1 (100.0%)	0 (.0%)	1 (100.0%)	1 (100.0%)	1 (100.0%)	35 (70.0%)	Not Significant
EPQ EXTRA-VERSION										
Introvert (<8)	6 (15.8%)	1 (33.3%)	0 (.0%)	0 (.0%)	1 (50.0%)	1 (100.0%)	0 (.0%)	0 (.0%)	9 (18.0%)	X ² =10.810 Df=14 .701>0.05 Not Significant
Ambivert (8to16)	24 (63.2%)	2 (66.7%)	3 (100.0%)	1 (100.0%)	1 (5.0%)	0 (.0%)	1 (100.0%)	1 (100.0%)	33 (66.0%)	
High extravert (17&above)	8 (21.1%)	0 (.0%)	0 (.0%)	0 (.0%)	0(.0%)	0 (.0%)	0 (.0%)	0 (.0%)	8 (16.0%)	
EPQ NEUROTIC										
Emotionally well balanced (Below 4)	11(28.9%)	0(.0%)	0(.0%)	0(.0%)	0(.0%)	0(.0%)	0(.0%)	0(.0%)	11(22.0%)	X ² =20.682 Df=14 .110>0.05 Not Significant
Average Neurotic (5 to 13)	19(50.0%)	0(.0%)	1(33.3%)	0(.0%)	0(.0%)	0(.0%)	0(.0%)	0(.0%)	20(40.0%)	
High Neurotic (14 & above)	8(21.1%)	3(100.0%)	2(66.7%)	1(100.0%)	2(100.0%)	1(100.0%)	1(100.0%)	1(100.0%)	19(38.0%)	

Table 5

In the personality profile of neuroticism dimension, among male (n=19). 47% (n=9) were highly neurotics (n=9) 10.5% (n=2) are emotionally well balanced. In females (n=29), 31% (n=9) were highly neurotics and 27.5% (n=8) were emotionally well balanced. Patients in the age of 26-35yrs, 63.6% constitutes of emotionally well balanced traits 68.7% (n=13) of males showed ambivert traits (n=13) & 10.5% (n=2) males showed extravert personality traits. (Table-6)

	EPQ NEUROTIC								Statistical inference
	Emotionally well balanced (Below 4)		Average Neurotic (5 to 13)		High Neurotic (14 & above)		Total		
	(n=11)	(100%)	(n=20)	(100%)	(n=19)	(100%)	(n=50)	(100%)	
Age									
Below 25yrs	0	.0%	2	10.0%	1	5.3%	3	6.0%	X ² =9.687 Df=6 .138>0.05

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26 to 35yrs	7	63.6%	6	30.0%	4	21.1%	17	34.0%	Not Significant
36 to 45yrs	3	27.3%	11	55.0%	9	47.4%	23	46.0%	
46yrs & above	1	9.1%	1	5.0%	5	26.3%	7	14.0%	
Sex									
Male	2	18.2%	8	40.0%	9	47.4%	19	38.0%	X ² =3.981 Df=4.409>0.05 Not Significant
Female	8	72.7%	12	60.0%	9	47.4%	29	58.0%	
Transgende	1	9.1%	0	.0%	1	5.3%	2	4.0%	

Table 6

Among extravert dimension, 62% of females (n=18) were ambiverts & 20.7% (n=6) highly extravert. Patients in the age group between 26-35 contributed 44% of introverts and patients in the age group of 36-45 constituted 50% of highly neurotic & 48.50% ambivert personality profile. (Table -7)

	EPQ EXTRAVERSION								Statistical inference
	Introvert (<8)		Ambivert (8to16)		High extravert (17&above)		Total		
	(n=9)	(100%)	(n=33)	(100%)	(n=8)	(100%)	(n=50)	(100%)	
Age									
Below 25yrs	0	.0%	2	6.1%	1	12.5%	3	6.0%	X ² =2.504 Df=6.868 >0.05 Not Significant
26 to 35yrs	4	44.4%	11	33.3%	2	25.0%	17	34.0%	
36 to 45yrs	3	33.3%	16	48.5%	4	50.0%	23	46.0%	
46yrs & above	2	22.2%	4	12.1%	1	12.5%	7	14.0%	
Sex									
Male	4	44.4%	13	39.4%	2	25.0%	19	38.0%	X ² =1.977 Df=4.740 >0.05 Not Significant
Female	5	55.6%	18	54.5%	6	75.0%	29	58.0%	
Transgender	0	.0%	2	6.1%	0	.0%	2	4.0%	

Table 7

In the psychotic personality dimension, 84.7% (n=16%) males showed psychotic traits 62%(n=18) females showed psychotic traits (n=18) 50% transgender showed psychotic traits.76.4% patients in the age group 26-35 showed psychotic traits. (Table-8)

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	EPQ psychosis						Statistical inference
	No Psychotic traits (<5)		Psychotic traits (>5)		Total		
	(n=15)	(100%)	(n=35)	(100%)	(n=50)	(100%)	
Age							
Below 25yrs	1	6.7%	2	5.7%	3	6.0%	X ² =.612 Df=3.894 >0.05 Not Significant
26 to 35yrs	4	26.7%	13	37.1%	17	34.0%	
36 to 45yrs	8	53.3%	15	42.9%	23	46.0%	
46yrs & above	2	13.3%	5	14.3%	7	14.0%	
Sex							
Male	3	20.0%	16	45.7%	19	38.0%	X ² =3.077 Df=2.215 >0.05 Not Significant
Female	11	73.3%	18	51.4%	29	58.0%	
Transgender	1	6.7%	1	2.9%	2	4.0%	

Table 8

No significant correlation found between personality profile of the individuals and their age and sex. Likewise no significant correlation found between personality profile of the individuals and their psychiatric morbidity. (Table-9)

Age	Correlation value	Statistical inference
EPQ psychosis	.023	.875>0.05 Not Significant
EPQ NEUROTIC	.261	.067>0.05 Not Significant
Psychiatric morbidity	.116	.422>0.05 Not Significant
n	50	50

Table 9: Correlations

Sex	Correlation value	Statistical inference
EPQ psychosis	-.245	.086>0.05 Not Significant
EPQ NEUROTIC	-.260	.068>0.05 Not Significant
Psychiatric morbidity	-.199	.166>0.05 Not Significant
n	50	50

Table 10

Stage of HIV illness	Correlation value	Statistical inference
EPQ psychosis	.155	.281>0.05 Not Significant
EPQ NEUROTIC	.064	.661>0.05 Not Significant
Psychiatric morbidity	.142	.326>0.05 Not Significant
n	50	50

Table 11: Correlations

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DISCUSSION: In this study, females were in high proportion compared to males. 94% of the study population was above the age of twenty five. 47% (n=9) patients of males are above the age of 40, 65% (n=19) of females are in age of 26-40.

In patients with psychiatric morbidity, 57% were above the age of 45. There is no gender difference among patients exhibiting psychiatric disorders. The prevalence of psychiatric morbidity 24% was comparable to meta-analysis study done by Ciesla J A, et al.^{16,18}

In this study depressive disorder constitutes 6% which is lesser than the finding noted in the study of Nebhinani, et al.,³⁰ but comparable to meta-analysis study done by Ciesla JA, et al.,^{16,17}

Substance use disorder found in 4% of the study population which is contrary to the study finding of Nebhinani, et al.,³⁰ (75%).

The studies from the US.^{14,15} have reported an annual prevalence of 47.9% for psychiatric disorders including MDD in 36% was not in concurrence with this study finding. While in Indian scenario, Jacob,⁽²⁴⁾ reported 26.1% of the HIV infected individuals having Psychiatric morbidity. Deshpande,⁽³¹⁾ et al reported 34% prevalence of Psychiatric morbidity among medical inpatients in an Indian hospital which is similar to our study findings.

Majority of studies in India have reported higher rates of depression among women compared to men (Chandra PS et al.,⁽³²⁾) which is consistent with our finding.

The study⁽³¹⁾ conducted at tertiary care center of south India found no relation between stage of illness and depression which is contrary to these study findings which reveals statistically significant relationship between stage of illness and depression

The study done by Cohen M et al.,⁽¹³⁾ Aswal Siddharth et al.,⁽³³⁾ showed patients with high viral load (CD4<500) had significantly higher scores of depression compared to patients with higher CD4 count, is similar to our study finding.

The Study done by Vidhu Mohan et al.,⁽²⁷⁾ showed males with high neuroticism which is contrary to our study finding of equal expression of high neurotic states.

Psychiatric morbidity is found in 28.5% of patients with psychotic traits, 33.3% of ambivert traits, and 52.89% of high neurotic traits. 33.3% of patient with introvert personality traits exhibited psychiatric morbidity.

Patients with high extravert type & emotionally well balanced personality profile showed no psychiatric morbidity.

High prevalence of psychiatric morbidity in HIV infected persons highlights with public health needs and awareness among professionals to develop comprehensive diagnostic and treatment formulations including regular psychiatric evaluation for successful treatment outcome in difficult patients.

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