

# Psychiatric Disorders in Adult 'People Living with HIV/ AIDS' Attending a Tertiary Care Hospital

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## ABSTRACT

**Background:** Psychiatric disorders are reported remarkably high among 'people living with HIV/AIDS' (PLWHA). It warrants a study in Nepalese context. **Objective:** To measure the prevalence of common psychiatric disorders among adult PLWHA. **Method and Materials:** It was a hospital-based cross-sectional study. One hundred consecutive consenting PLWHA attending VCT clinic of a tertiary care hospital within study period (1 year) were enrolled after informed written consent. Pertinent informations were recorded in the Proforma. An intensive exploration was made in all subjects into common psychiatric disorders, i.e., depression, anxiety, alcohol use and organic mental disorders with the use of the tools: Beck Depression Inventory (BDI), Beck Anxiety Inventory (BAI), CAGE and MMSE. **Results:** Among enrolled subjects, more were male, with average age of about 35 years. Majority of subjects were married and were literate to different educational levels. These people were from different residential settings- urban and rural, and different ethnic groups. They contracted the infection mainly through sexual and parenteral routes. Approximately one third had the CAGE score of  $\geq 2$ ; 18% MMSE score  $< 24$ ; 68% BAI score  $> 7$  and 52% BDI score  $\geq 17$ , indicating clinical diagnoses in respective spectrum. **Conclusion:** Psychiatric disorders are common among PLWHA and need to be screened for timely management. **Keywords:** Anxiety, Depression, Mental Illness, Nepal, Organic Mental Disorder, PLWHA, Alcohol Use Disorder

## INTRODUCTION

Stressors associated with 'living with HIV/AIDS' and related disorders can contribute to a psychiatric illness like: depression, anxiety, stress-related, somatoform, substance use disorder, dementia, and others [1]. Mental illness may predate HIV-related illness; i.e., severely mentally ill are at an elevated risk for HIV infection. HIV-related illness can also cause organic psychiatric conditions. Untreated psychiatric illness, on the other hand, may contribute to a patient's decline in functioning and quality of life to the same extent as does physical disability. And, psychiatric co-morbidity

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can affect adherence to 'antiretroviral therapy' (ARV) and other safety measures [1,2]. There is a lack of data; hence, prioritization on the psychological health of 'people living with HIV/AIDS' (PLWHA) is warranted.

This hospital based cross sectional study was conducted to estimate prevalence of common psychiatric problems in adult PLWHA attending 'infectious disease clinic' of BPKIHS. Relevant screening tools for common psychiatric disorders, i.e., depression, anxiety, alcohol/ substance and organic disorder were used. Overarching the objectives would be to provide services and formulate appropriate strategies to ensure psychosocial health services as well, along with management of the physical disease.

## METHODS

It was a cross-sectional, hospital-based prevalence study conducted in BP Koirala Institute of Health Sciences (BPKIHS), a tertiary care hospital in Dharan, a city in eastern Nepal. It is a multi-disciplinary teaching hospital providing VCT, PMCTC and antiretroviral therapy for management of HIV diseases (for both adults and child and adolescents in separate departments) and also psychiatric services along with other specialty services [3].

The adult PLWHAs attending 'infectious disease clinic' of BPKIHS were screened for common psychiatric problems with the screening instruments for depression, anxiety, alcohol/ substance use and delirium/ organic disorders. We enrolled 100 consecutive adult PLWHAs giving informed written consent within study period of 1 year (2010/11).

Socio-demographic data were collected using semi-

structured proforma. The subjects were either provided with the questionnaires (Nepali versions) - Beck Depression Inventory (BDI) [4,5], Beck Anxiety Inventory (BAI) [6,7], CAGE (to those who could read) [8,9] or interviewed by the interviewers. They were also assessed with the help of the MMSE [10,11]. The responses were analyzed by following the instructions of the instruments. Those with psychiatric disorders were referred to psychiatric department.

## ETHICAL CONSIDERATION

Ethical clearance was obtained from the Institute Research Committee of BPKIHS (Ref.No.- Acd. 108/066/067, Research Code- 19/16). The subjects were enrolled after obtaining written informed consent. Voluntary participation was explained to all subjects. Strict confidentiality of information was maintained.

## RESULTS

Of the total 100 clients, 34% were female, with an M : F ratio of 1.94 : 1.

The most common caste/ ethnicity groups among PLWHA seeking help in the clinic were: upper Hill castes (e.g., Brahmins, Chhetri) and disadvantaged Hill Janajatis (e.g. Rai, Limbu, Tamang etc.). Average age was 34.9 (18 minimum, 64 maximum) years. Patients of age groups (30- 34) and (35- 39) years constituted the largest proportion 28 and 27% respectively.

The majority of these clients were married; literate and educated to different levels. (Table 1) Many subjects did not respond about their occupation and among the responses, drivers and home-makers had a significant presence.

**Table 1:** Caste-ethnicity Distribution, Age, Marital status and Educational level.

Caste-ethnicity groups	Number/ %
Upper Hill castes	35
Upper Terai castes	9
Relatively advantaged Janajati	9
Religious minority	2
Disadvantaged nondalit Terai	5
Disadvantaged Hill Janajati	29
Disadvantaged Terai Janajati	3
Hill dalit	8

<b>Age (in years)</b>	
< 20	2
20- 24	2
25- 29	16
30- 34	28
35- 39	27
40- 44	14
> 44	11
<b>Marital status</b>	<b>Number / %</b>
Single	10
Married	82
Separated	3
Widow/er	4
Engaged	0
No response	1
<b>Education</b>	<b>Number / %</b>
Illiterate	8
Literate	17
1- 3	14
4- 7	7
8- SLC	42
Higher	12

Among the subjects, joint family was the most common. They came from different residential settings, both urban and rural.

**Table 2:** Family type and Residential setting.

<b>Family type</b>	<b>Number / %</b>	<b>Residential setting</b>	<b>Number/ %</b>
Nuclear	30	Rural	31
Joint	59	Semi-urban	34
Extended	9	Urban	31
Other	2	No response	4

Majority of cases were brought by family members to the service. Most of them were receiving service from a single place, i.e. BPKIHS only.

**Table 3:** Referral sources.

Referral sources	Number/ %
Family members/ relatives	35
Friend/ neighbor	10
Social organization staff	12
Other health service	10
Other departments	33

Majority of the cases came to the service within 1 year of the diagnosis of HIV/ AIDS.

**Table 4:** Duration of the diagnosis before coming to current service.

Duration of diagnosis	Number/ %
Up to 3 months	60
3- 12 months	16
12- 36 months	8
36- 60 months	2
5- 10 years	4
> 10 years	2
No response	8

Sex with the opposite gender and injecting drugs were the most common route of contracting the infection. Some subjects were open to express that they contracted from commercial sex worker (CSW) and many females from their husband.

**Table 5:** Route of transmission of infection.

Route of transmission	Number/ %
Male female Sex	72
Same gender sex	Not revealed
Injecting drugs	25
Blood products	1
No response	2

In MMSE, some PLWHA (14%) had scores of 20-24 indicating probable cognitive disturbances, i.e. organic mental illness but none with < 20 i.e. suggestive (confirmatory) of organic problem with cognitive disturbance (organic mental disorders).

**Table 6:** MMSE score distribution.

MMSE score	Number/ %
< 20	0
20- 24	14
25- 30	84
No information available or not assessed	2

In the BAI scoring, majority had minimal to moderate anxiety symptoms. Many (65%) had BAI score of > 7, indicative of anxiety disorder.

**Table 7:** BAI score distribution.

BAI score	Number/ %
Significant score (> 7)	65
Minimal (0- 7)	35
Mild (8- 15)	21
Moderate (16- 25)	39
Severe (26- 63)	5

In the BDI scoring, majority had minimal to moderate depressive symptoms. Many (60%) had BDI score of > 17, indicative of depression.

**Table 8:** BDI score distribution.

BDI score	Number/ %
Normal (0-10)	21
Mild (11- 16)	19
Clinical borderline (17- 20)	15
Moderate (21- 30)	24
Severe (30- 40)	18
Extreme (> 40)	3

Among the subjects, 32% had the CAGE score of  $\geq 2$ , i.e., alcohol use disorders.

Seventy-six (76%) subjects had at least one score exceeding cut off of the screening instruments used for the common psychiatric disorders. Anxiety was the most common one among them.

**Table 9:** Prevalence of overall and common mental disorders.

Mental disorder prevalence	Number/ %
Absent	24
<b>Overall</b>	<b>76</b>
Alcohol use disorder	32
Organic	14
Anxiety	65
Depression	60

# Multiple response category – One respondent may have one or more responses

## DISCUSSION

HIV/AIDS has infected and killed many people since its appearance in 1981 [2,12]. The global rate of its infection is increasing and more so in developing countries [13,14]; 95% of all HIV/AIDS cases were in developing nations according to UNAIDS [14]. It has been a burning issue also in Nepal because of its remarkably high prevalence among some high risk groups, e.g. sex workers, injecting drug users and migrant labors [15]. Increasing number of Nepalese are working abroad, injecting drug users are also increasing and with this, HIV/AIDS is also reported to increase. HIV/AIDS prevalence is estimated to be about 0.5% of general population in Nepal [16].

Neuropsychiatric disorders have not received due attention as required in general, and also regarding HIV/AIDS pandemic. Psychiatric disorders have an intertwined relationship with HIV though they are often disregarded when HIV/AIDS interventions are planned and implemented. Behavioral changes in some psychiatric disorders, e.g. cognitive disorders, substance abuse and personality disorders may lead to a greater risk of HIV infection [2,17]. HIV/AIDS itself can cause a number of psychological conditions directly or due to circumstances surrounding the disease and psychiatric conditions resulting from HIV-related neurological changes. These disorders can adversely influence the progression of the disease, lead to noncompliance with prescribed medical treatment, and increase the likelihood that PLWHA will act in high-risk ways. Each of these increases the chance of HIV transmission [2,17]. Also with new treatments and increasing life expectancies, mental disorders are becoming more relevant for HIV/AIDS management [13].

A great resource is said to be invested for the promotion of overall health of PLWHAs worldwide, including Nepal [13,15]. In spite of the great magnitude of this infectious disease in Nepal and generally high psychiatric co-morbidity among these people worldwide [1,2,17], there is scant data about this disorder in Nepalese context. Though literature shows similarity regarding its prevalence, socio-demographic characteristics and clinical profiles across the countries [1,2], it merits a study in Nepalese context too.

This hospital clinic-based study incorporated 100 PLWHAs coming into contact of the investigating team and enumerators (trained and nominated) during the study period. It utilized the MMSE [10,11], CAGE questionnaire [8,9], Beck Anxiety Inventory (BAI) [6,7] and Beck Depression Inventory (BDI) [4,5] as screening tools, widely validated across the world. Nepali version/ translation of these instruments which have

already been used in other studies were applied in this study. It intensively included 4 major psychiatric disorders. Though these consist of major chunk of psychiatric morbidity, there are people with other mental illnesses too [18]. It means the overall prevalence of mental illness is likely to be more than what this study revealed.

In any society, 15-25% of the population is reported to suffer from mental illness at any point of time [19,20]. This over all prevalence rate escalates in different vulnerable and at stress groups. People suffering from various physical diseases including chronic, disabling, stigma associated, disfiguring and disabling ones [21]; in this respect HIV/AIDS, show higher rates of psychological and mental problems [14]. In this study, the overall prevalence of these mental problems was 76% which is clearly in excess of the prevalence rate of mental disorders of a general population [19,20,22]. This over all prevalence is comparable with that of other studies carried out among PLWHA subjects in clinical settings [23].

The CAGE score of 2 or more were reported by 32% of the subjects. This score suggests the alcohol use disorders among these PLWHA subjects which has been reported high in this region both in community [24] and clinical settings [25-27]. This rate of PLWHAs is higher than among general community (26%) of this region [24]. Among these subjects, main focus is on IVDU as seen in literature, with the report of higher rates [28]. We had assessed for alcohol problems in this study for some particular reasons: first, it has been reported remarkably high in this region [24,25]; also among women who are supposedly infected with the infection through sexual contact with their abroad working husband (which needs study to clarify). Many female spouses of Nepalese abroad workers suffer from mental disorders [29]. We hope that in subsequent studies, this issue of IVDU among PLWHA will be addressed duly since among IVD users, HIV/AIDS prevalence is reported remarkably high in Nepal.

The MMSE score of less than 20 suggestive of organic mental disorders, e.g., delirium was not found in this study possibly because the subjects were mainly enrolled from out-patients, who came during follow-up and on their own. However, nearly 14% subjects showed scores of 20-24 pointing towards some possibility of organic psychiatric disorders affecting cognitive functions. This is clearly high in lifetime studies as reported in some studies and our observation is consistent with other reports [2,18].

The most studied entity is depression in most of the chronic illnesses, including HIV/AIDS [2,18,30-32]. The implication of unrecognized, under diagnosed and under treated

depression among PLWHA is somewhat addressed in many studies of this kind. Many studies reported it among the most common mental illnesses as among general population [13,30] with a wide range of prevalence. Our finding of varying severity and rates is consistent with the reported studies. Even if we include those with clearly significant severity, i.e., moderate and more severe (more severe than clinically borderline), the rate of 45% is clearly in excess of the general population rate [19,20].

Anxiety disorder, probably among the most prevalent or equally prevalent as depression or the commonest disorder though less talked as compared to depression has been found higher than depression in this study. This finding replicates most community studies among general population and among PLWHA subjects as well [18-20,31,32]. Hence, anxiety disorders deserve similar attention. In this study, we did not sort out specific anxiety disorders but screen over all anxiety disorders. In-depth and diagnostic studies will add to our understanding of this problem.

Like in other studies [2,12,13,31,32] people of productive ages are the most in this study. It is explained by the fact that these people are sexually active; these age groups seek help because of their better education, awareness, probably better social network and family support mostly being married, and old people might have died early since ARV was shortly then available here. This fact is consistent with the findings regarding marital status, education levels and residential settings in this study. The ethnicity representation of 'dalit' is relatively better in this study than in other studies carried out in this institute. Though this needs further intensive study, however it could be due to the fact that this problem is really higher among them, the public awareness about the problem is better or because of accessible service for compelling illness in this region. The female representation is relatively alarming but realistic considering the fact that many spouses of Nepalese females work abroad [29] and they have been supposedly transmitted the infection from their male spouses. The subjects were from both city and village areas. This is similar to the observations made in other studies of this institute. The institute is situated in a city surrounded by villages and is a tertiary care hospital of this region of the country [3]. This institute has services including intensive specialty services for PLWHA, i.e., ARV therapy and psychiatric service.

## CONCLUSIONS

A remarkable proportion of adult PLWHA visiting 'infectious disease clinic' in BPKIHS had at least one score exceeding cut

off of the screening instruments used for common psychiatric disorders, i.e., anxiety, depression, alcohol use disorder and cognitive dysfunction. The finding clearly indicates the need for due attention to the mental health issues of the adult PLWHA through screening, timely identification and needful management of psychiatric comorbidity.

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## Conflicting Interest

None.

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