A Comparative Study of Depression and Anxiety in HIV/AIDS Patients Registered at Treatment Center in Lahore Pakistan

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Abstract

Depression and anxiety are two most common mental health conditions which are usually faced by patients having any log term and terminal illness or condition. So like other medical conditions, People living with HIV/AIDS face not only stigma and discrimination but also experience multiple mental health issues like depression and anxiety. These mental health conditions sometimes due to non-availability of intervention can hamper the adherence and increase the disease burden. A comparative study of depression and anxiety was conducted with the aim of measuring depression and anxiety in HIV/AIDS patients living in developing country, so that on the bases of findings recommendations should be forwarded to improve the services and to improvise timely right intervention.

Methods: Study was conducted at HIV clinic Jinnah Hospital Lahore, Pakistan. Adult patients of either sex were included after obtaining written informed consent. Siddique Shah Depression Scale (SSDS) and Siddique Anxiety Scale (SAS) were applied. SSDS contains 36 items and SAS 25 items. Each item is scored from 0 to 3. Depression was classified as mild (score 26-36), moderate (score 37-49) and severe (score ≥50). A cutoff of 26 was used to diagnose anxiety. Demographic features, laboratory findings and treatment status and CD4 count were documented on a standardized form.

Results: A total of 168 patients participated in the study. Median age was 35 years (range 18 to 60) and 120 (70%) were male. There were 85 (51%) patients in antiretroviral therapy (HAART) group and 83 (49%) in non-HAART group. Anxiety was observed in 47 (27.9 %) patients and depression in 72 (44 %).Depression was classified as mild in 96 (56%), moderate in 41 (25%) and severe in 31 (19%) patients. Depression was significantly more common amongst patients who were not on treatment (51% vs. 37%; 95% CI 37.6, to 26.1; P < 0.005). Depression was also significantly more common amongst females (Mean= 39.0 vs. 32.8 %; OR/ and 95% CI 0. 39.0 to 24. 6; P = 0.002). Participants having CD4 less than 500 were found to have more depression and anxiety (36.0 vs. 21.6 and 31.8 vs. 20.0; P < 0.005).

Conclusion: Rates of both anxiety and depression are high amongst HIV patients of developing country and patients who were not on treatment, having CD4 less 500 and female gender were found to be significant risk factors.

Keywords: HIV = Human Immunodeficiency Virus; AIDS = Acquired Immunodeficiency Syndrome; SSDS= Siddique Shah Depression Scale; SAS=Siddique Anxiety Scale; ART= Anti Retro viral Therapy; CD4= Immunity cells

Introduction

People living with HIV may have a wide range of mental health needs. Common mental health co-morbidities include depression and anxiety. In addition to being unduly burdened by HIV, HIV patients experience higher rates of depression, anxiety, smoking, harmful alcohol use and alcohol dependence, other substance use and suicide as a result of chronic stress, social isolation, violence and disconnection from a range of health and support services [1]. Studies suggest that mental health disorders in people living with HIV may obstruct with treatment initiation and adherence and lead to poor treatment effects [1]. The occurrence of mental health co-morbidities may upset adherence to Anti Retro viral Therapy (ART), due to forgetfulness or poor organization, motivation or understanding of treatment plans [2].

Mental health problems constitute more than 11% of the total burden of disease in low- and middle-income countries; many countries spend less than 1% of their health budget in mental health services [3].

Anti - Retro viral Therapy (the therapy used for HIV/AIDS management) do not address mental health problems, Mental health prevalence is influenced by viral load, central nervous system pathology, associated psychosocial stressors and the nature of HIV as a life-threatening and stigmatized illness [3]. Many people with HIV experience a variety of psychological and psychosocial problems throughout the experience of living with and adjusting to the disease. HIV/AIDS is a substantial cause of death and disability, especially in low- and middle-income countries [3]. Mental health and HIV/AIDS are closely interlinked; mental health problems, including substance-use disorders, are associated with increased risk of HIV infection and AIDS, moreover interfere with their treatment and conversely some mental disorders occur as a direct result of HIV infection. Furthermore, people with HIV/AIDS when facing mental health problems may miss their dosage which can cause resistance to treatment and also an increase in transmission of resistant virus [4].

Comorbid psychiatric problems, particularly major depressive disorder and substance use disorder, have been found as predictive of suicidal ideation in HIV positive individuals. A latest study of HIV positive persons in a large multi-site cohort found that individuals with a history of suicidal ideation and suicide attempt reported suggestively higher levels of current depressive symptoms and had a significant higher prevalence of major depressive disorder, as well as higher levels of plasma HIV RNA [5].

An overview of above mentioned researches and reports suggest that mental health problems are very common among HIV/AIDS patients. Although the disease itself cause psychological distress but stigma attached to this disease makes it more stressful and complicated. So present study is aimed to find out either PLHIV who are on treatment and who are not on treatment go through the same level of mental health problems (depression and anxiety) or there any is difference in both. The study will further help in understanding which group of PLHIVs needs more psychological help.

Hypothesis

1. It is hypothesized that there will be no difference in the level of depression and anxiety in patients of HIV/AIDS.
2. It is hypothesized that there will be no difference in the level of depression and anxiety in patients of HIV/AIDS who are on treatment and not on treatment.
3. It is hypothesized that Male HIV/AIDS Patients will have greater level of depression and anxiety as compare to female HIV/AIDS Patients.
4. It is hypothesized that HIV/AIDS Patients having CD4 less than 500 will have greater level of depression and anxiety as compare to HIV/AIDS Patients having CD4 equal of above 500.

Method

Design:

The comparative study was carried out by applying cross sectional method.

Setting:

The study took place in Lahore, Pakistan. Data was collected from treatment center where People Living with HIV and AIDS were registered for their treatment and care.

Participants:

Since the study is focused on mental health problems of PLHIVs, 168 HIV/AIDS positive participants regardless of gender were recruited from HIV/AIDS treatment center by purposive sampling.

Inclusion Criteria

• Adult (males and females) Living with HIV (PLHIVs) registered with treatment centers and giving consent of participation were recruited for the study.
• HIV patients aged 18 and onwards.
• Participants with at least one year of diagnosis were included into study.
• Participants on treatment were included.
• Participants who were not on treatment were also included.

Exclusion Criteria

• Children and adolescents PLHIV not included.
• PLHIV with too severe physical (diabetes, hypertension and cardiac Problem) and/or at a too chronic stage of psychiatric morbidity to understand and respond to the questions of interview and other research tools were not selected as sample.
• PLHIVs with active AIDS infection were not included in the study.
• Pregnant female were not included.
• PLHIVs with active psychosis were not taken.

Measures

Demographic questionnaire:

Demographic questionnaire was developed in light of review of literature and it included gender, Age, education, CD4 count, marital status, number of children, employment status, income, treatment status, Anti Retro viral Therapy (ART) regime and disclosure status.

Siddique Shah Depression Scale (SSDS):

Siddique Shah Depression Scale (SSDS) is an indigenous scale which was developed in 1992 by Dr. Salma Siddique and was applied to assess depression in the present study. SSDS contains 36 items [6] .Each item is scored from 0 to 3. Depression was classified as mild (score 26-36), moderate (score 37-49) and severe (score ≥50).

Siddique Shah Anxiety Scale (SAS):

SAS is a locally developed scale by Siddique and Hasnain [7]. This scale is in Urdu to assess anxiety. It has 25 items, scored from 0 to 3. A cutoff of 26 was used to diagnose anxiety.

Procedure

After taking the permission from in charge of the clinic data was collected from the diagnosed registered patients of HIV/AIDS. Brief introduction and purpose of this study was elaborated to the patients and confidentiality of information was ensured. With the consent of participants the research measuring tools (Demographic questionnaire, SSDS, SAS) were administered respectively. At the end participants were debriefed and thanked. Keeping the ethical consideration, participants who were having clinical depression and anxiety were referred for further assessment and management with the consent of participants. Statistical package for social sciences version 21 was used for descriptive and inferential statistics.

Results

The demographic shows that 168 patients 83(49.4%) not receiving any treatment and 85(50.6%) receiving treatment participated in the study. The sample size was comprised of 70% males and 30% females, 93(55.35%) of participants were married and majority 142(84.02 %) of participants had middle education. The age range 18-46 reflects 142 (84.02%) of sample was below 50 and the median age was 35 years. The prevalence of depression and anxiety among HIV patients in this study was 72 (44 %) and 47 (27.9 %) respectively (Table 1).

Demographic variables	Not on treatment (83) F (%)	On treatment (85) f (%)	Totalf (%)
Gender (i) Male Female	60(35) 23(13)	60(35) 25(17)	120(70) 48(30)
Age (ii) 18-46 47-60 **Education** (iii)	62 21	71 14	133(79.1) 35(20.83)
Middle	69	73	142(84.02)
Intermediate and above	14	12	26(15.38)
Marital Status (iv)			
Single	44	31	75 (44.64)
Married	39	54	93 (55.35)
Scales (v)			
Anxiety score <26	52	69	121 (72.02)
score ≥26	31	16	47(27.9)
Depression Mild (score 26-36) Moderate (score 37-49) Severe (score ≥50)	40 21 22	56 19 10	96 (56) 41(25) 31 (19)

Table 1: Frequency and Chi-Square of Demographic Characteristics of Participants (n=168)

Hypothesis 1

It was hypothesized that there would be no difference in the level of depression and anxiety in patients of HIV/AIDS who are on treatment and not on treatment. Means, Standard Deviations, t and p values of HIV/AIDS patients on Depression and anxiety Scales (n= 168) (Table 2).

Tests	Groups	M	SD	T	P<
Depression	On treatment	26.1	18.5	1.99	.003**
	Not on treatment	37.6	28.2		
Anxiety	On treatment	22.6	13.8	1.31	.004
	Not on treatment	28	17.3		

df =88, p<.003***, 004***

Table 2: Significant difference in the level of depression

The result shows significant difference in the level of depression. Patients who are not on treatment are having higher level of depression and anxiety as compare to patients on treatment. Furthermore the mean scores of depression and anxiety 26.1 and 22.6 respectively show that patients on treatment face more depression than anxiety.

Hypothesis 2:

It was hypothesized that HIV/AIDS Patients having CD4≥500will have greater level of depression and anxiety as compare to patients having CD4<500.

Means, Standard Deviations, t and p values of HIV/AIDS patients on Depression and anxiety Scales (n= 168) (Table 3).

Tests	Groups	M	SD	T	P<
Depression	CD4≥500	21.6	20.6	3.8	.001***
	CD4<500	36.0	15.6		
Anxiety	CD4≥500	20	12.4	4.6	.004***
	CD4<500	31.8	15.5		

df =88, p<.001***, 004***

Table 3: Greater level of depression and anxiety

The table shows that PLHIVs having CD4 less than 500 seem to have greater level of depression and anxiety. However patients having equal and above 500 CD4 exhibit more depression than anxiety.

Hypothesis 3:

It was hypothesized that Male HIV/AIDS Patients would have greater level of depression and anxiety as compare to female HIV/AIDS Patients.

Means, Standard Deviations, t and p values of HIV/AIDS patients on Depression and anxiety Scales (n= 168) (Table 4).

Tests	Groups	M	SD	T	P<
Depression	Male	24.6	24.6	2.8	.002***
	Female	39.0	21.6		
Anxiety	Male	20	12.4	3.6	.000***
	Female	32.8	16.5		

df =87, p<.002***, 000***

Table 4: Male and Female HIV/AIDS Patients Depression and anxiety levels

The results show that female HIV/AIDS Patients have greater level of depression and anxiety as compare to men HIV/AIDS Patients.

Hypothesis 4:

It was hypothesized that married HIV/AIDS Patients would have greater level of depression and anxiety as compare to unmarried HIV/AIDS Patients.

Means, Standard Deviations, t and p values of HIV/AIDS patients on Depression and anxiety Scales (n= 168) (Table 5).

Tests	Groups	M	SD	T	P<
Depression	Married	26.1	20.6	1.3	.003***
	Unmarried	34.6	20.1		
Anxiety	Married	22.7	13.9	3.6	.002*
	Unmarried	25.6	16.1		

df =86, p<003***, 002ˢ

Table 5: Married and unmarried HIV/AIDS Patients Depression and anxiety levels

The result shows significant difference in the level of depression and anxiety in married and unmarried HIV/AIDS patients. Unmarried HIV/AIDS patients found to be more depressed and anxious as compare to married ones.

Discussion

The present comparative study aimed to assess the level of depression and anxiety in HIV/AIDS patients. The sample which was selected purposefully regardless of gender but the demographic shows 30% females and 70% males ratio in the study which further highlights three important points: i) that HIV/AIDS is yet less prevalent in females or ii) may be the it is under reported or/and iii) still female patients due to socio economic situation find difficulty to reach the treatment facility.

Infected patients of HIV/AIDS have numerous emotional and psychological issues regarding their disease as individual face shame, stigma and discrimination 7.Mental health problems found to be more than 11% of the total burden of disease in low- and middle-income countries; many countries invest less than 1% of their health budget in mental health services [3].

Both depression and anxiety in PLHIV were prevelant44 % (72) and 27.9 % (47) respectively but the prevalence of depression in the present study was as higher as 44% which is 16% more of the anxiety. The current study result was supported by with other studies carried out in Ethiopia, USA and Denmark, in which reported to be 38.94, 43.9, 44, respectively [7,8].

However, the study findings were less than the studies carried out in China, India, Albanian, and Cameron where prevalence was calculated as 73.1, 66.3, 58.75, and 63 % respectively [9-11]. This variation in prevalence might account for the variation in sample size or might be the measuring scale applied to measure depression. HIV/AIDS and depression are likely to be the first two foremost causes of frailty worldwide by 2030 [9,12]. Researches both from low- and high-income countries show that depressive symptoms are more often seen than in HIV-anxiety [13,14].

The results on the whole show that both patients on treatment and not on treatment have more depressive symptoms than anxiety, but mean score for both depression (36.7) and anxiety (28) were higher among patients who are not receiving treatment yet. Whereas mean value for patients who were receiving treatment showed greater level of depression (26.1) as compare to anxiety (22.6). Although the similar findings of having higher level of depression with HIV/AIDS were reported by the other studies, but the current study identified that depression and anxiety both are higher in patients who are not on treatment; it may because of the stigma associated to the disease or/and may be the disease course itself causes it. Some other studies also indicated high prevalence of mental health problems but Anxiety, specifically among patients who have not been started treatment with treatment, which may because of apprehensions about disease, stress or attached social stigma related to their diagnosis, and may other losses which they might face due their disease like loss of job, not getting married, leaving isolated [15,16].

The study also identified a relation in depression and CD4 PLHIVs having lower CD4 showed higher degree of depression and similar finding were reported by other studies. The connection between depression and CD4 count been examined as an important factor when it comes to dealing with HIV/AIDS [17]. Mean score shows female participants had more depression (39.0) and anxiety (32.0) as compare to male participants (24.0, 20.0) . Whereas mean score shows that males are showing more depression (24.0) than anxiety (20) and similar findings were identified for female participants as well. However means score for depression is higher in both males and females 24.0, 39.0 respectively [18].

Unmarried PLHIVs showed greater level of depression and anxiety as the mean score indicated 34.6 and 25.6 respectively. Further findings also indicated depression is over all higher in both groups. However married people have more depression 26.1 than anxiety 22.7. Females who were not married and not on treatment have both anxiety 33% and depression 46% higher but depression is 13 times higher than anxiety. Comparable finding were reported by some other studies conducted in India and Albania, unmarried PLHIVs are happened to experience higher degree of depression and anxiety but females on the whole and specially unmarried females identified as experiencing the depression and anxiety which may because unmarried people are more in threat of left alone or fear of not getting married due to disease nature or stigma associated to it.

Conclusion

The study concludes that Depression and anxiety both are higher among HIV/AIDS patients who are not on treatment, yet depression primarily higher in both groups regardless of treatment. Furthermore findings suggest that, females, and unmarried male female, having CD4 lower than 500, are more prone to have depression and anxiety.

Recommendations

1. The present study suggests that depression is most occurring mental health problem to HIV/AIDS patients so the professionals should pay attention to the mental health issues so that time intervention should not be suffered.
2. This study findings showed PLHIVs who are having less than 500 CD4 and not on treatment are more at risk to develop poor mental health so time to time mental health assessment should be done and may be early treatment ignition reduce the mental health burden .
3. Furthermore mental health should be explored at every stage of the disease so that a clear understanding be developed which stage caused what mental health issues and a comprehensive intervention plan should be designed.

Limitation

1. The study could only cater a limited number of patients.
2. All the risk groups could not be included into study.
3. The data was taken from only one treatment center.

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