

RESEARCH ARTICLE

Depression in People living with HIV/AIDS: A Prevalence study in Anti-Retroviral Therapy Centre

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Abstract

While psychiatric problems may be commonly experienced by persons living with AIDS, it may be challenging for health care providers to identify persons who are suffering from these symptoms. Hence an effort was made in the present study to know the prevalence of depression, anxiety and stress in patients on Anti-Retroviral Therapy (ART) in a tertiary care hospital in Nagpur district of Maharashtra. Depression, anxiety and stress were assessed in 754 HIV patients on ART using DASS-21 questionnaire. Socio-demographics and some clinical characteristics were also studied. Out of 754 patients, 61% were males, 12.5% were illiterate and the mean income was less than 3500 rupees. About 65.7%, 29.31% and 35.4% patients suffered from mild to severe degree of depression, anxiety and stress respectively.

Keywords: Psychiatric problems, AIDS, depression, anxiety, stress, anti-retroviral therapy, HIV patients.

Introduction

It is well documented that individuals with HIV have significantly higher levels of psychological distress than the general population and depression has been documented as the most common form of psychological distress experienced by them. While depression may be viewed as a normal reaction to HIV, barriers to recognition of depressive symptoms exist and include inadequate discussion between patients and health-care providers and mistakenly attributing somatic symptoms of depression to HIV (Chandra *et al.*, 2005). Thus, it may be challenging for health-care providers to identify persons who are suffering from depressive symptoms. Moreover, during periods of distress, such individuals have difficulty in engaging in behaviors that are health promoting (Shacham *et al.*, 2009; Basavraj *et al.*, 2010). One of the important consequences of depression may be non-compliance to anti-retroviral therapy (ART). Therefore, an attempt has been made in the present study to assess depression, anxiety and stress in HIV patients on ART.

Materials and methods

Experimental design: First six months of anti-retroviral therapy are critical. Some patients may not respond as expected or may even deteriorate clinically at first (National AIDS Control Organization, 2007). Hence, a cross-sectional study was conducted on adult HIV/AIDS patients on ART for 6 months or more during June 2009 to December 2011 at the ART centre of a tertiary Medical College and Hospital. Totally, 1181 patients were registered for treatment at the centre before starting the study out of which 754 patients fulfilled the study's inclusion criteria.

Approval from institutional ethics committee was sought and written informed consent of patients was taken before starting the study.

Data collection and parameters studied: Data collection was done using a pre-designed and pre-tested proforma which included questions on socio-demographic profile of the patients such as age, sex, place of residence, religion, education, occupation, marital status and family income. Date of HIV status confirmation and date of starting ART were noted from the records. Weight was recorded to nearest 0.5 kg on weighing machine. Total standing height was measured by using Stadiometer. Height nearest to 0.5 cm was measured. Body mass index was used as a parameter for assessing nutritional status. Latest CD4 counts and haemoglobin levels of all the patients were noted. Psychological morbidity was assessed using Depression Anxiety and Stress Scale-21 (DASS-21) which is a short version of DASS-42 (Henry and Crawford, 2005; Andreou *et al.*, 2008; Imam, 2008). The scale has 3 components namely depression, anxiety and stress. Depression scale included 7 items that measured symptoms typically associated with dysphoric mood (e.g., sadness or worthlessness). Anxiety scale included 7 items that are primarily related to symptoms of physical arousal, panic attacks and fear (e.g., trembling or faintness). Stress scale included 7 items that measured symptoms such as tension. Subjects were asked to use a 4-point severity/frequency scale (0=Did not apply to me at all, 1=Applied to me to some degree or some of the time, 2=Applied to me a considerable degree or a good part of the time and 3=Applied to me very much or most of the time) to rate the extent to which they have experienced each state over the past week.

Table 1. Severity ratings of DASS subscales.

Severity ratings	Percentile	DASS-Depression	DASS-Anxiety	DASS-Stress
Normal	0–78	0–9	0–7	0–14
Mild	78–87	10–13	8–9	15–18
Moderate	87–95	14–20	10–14	19–25
Severe	95–98	21–27	15–19	26–33
Extremely Severe	98–100	28+	20+	34+

Questions were explained to the patients in the language they understand and as per the instructions given by the author of the scale. Scores for the DASS-Depression, DASS-Anxiety and DASS-Stress were calculated by summing the scores for the relevant items and converting them into percentile scores. Based on the cut-off percentiles, patients scoring less than 78 percentiles were considered normal; 78-87 percentiles as mild; 85-95 percentiles as moderate; 95-98 percentiles as severe and 98-100 percentiles as extremely severe (Edimansyah *et al.*, 2008) (Table 1). Patients with high scores on DASS-21 were referred to psychiatrist for further management. Internal consistency reliability coefficient alphas for depression, anxiety and stress subscale were 0.88, 0.82, 0.90 and 0.93 respectively. The scale also had moderate discriminant validity ($p < 0.001$) (Henry and Crawford, 2005; Andreou *et al.*, 2008; Imam, 2008). Continuous variables were summarized in terms of means and standard deviations while categorical variables in the form of frequencies and percentages. Chi-square test was applied for comparing difference in proportions of two groups.

Results

Out of 754 patients, maximum i.e., 61% were males and only 39% were females. Mean age of the patients was 38.01 ± 8.8 years. The mean time elapsed since HIV diagnosis was 40.7 ± 26.8 months with mean duration of treatment 16.4 ± 6.6 months. The mean income of all the patients was less than 3500 rupees. Only 16.45% patients were educated up to secondary school and above and 12.5% were illiterate. About 26% patients were unemployed and 32.8% patients were malnourished i.e. $BMI < 18.5 \text{ Kg/m}^2$. The mean body mass index of the patients was $19.9 \pm 2.9 \text{ Kg/m}^2$ and 93.6% patients had mild to severe anaemia and their mean haemoglobin levels were $9.6 \pm 1.5 \text{ g\%}$ (Table 2).

Out of 460 males, 201 (43.7%) suffered from mild to severe depression, 110 (23.9%) had symptoms of anxiety and 111 (37.8%) accepted that they had stress. Similarly out of 294 total female patients, 176 (59.9%) suffered from mild to severe depression, 111 (37.8%) had anxiety and 129 (43.9%) had stress. It was observed that depression, anxiety and stress were reported more in females than in males and this association was found statistically significant ($p < 0.05$) (Table 3).

Table 2. Demographic and clinical profile of HIV/AIDS patients.

Demographic characteristics	Mean	S.D
Age (years)	38.01	8.8
Monthly income (rupees)	3493.9	3563
Duration of treatment (months)	16.4	6.6
Time elapsed since diagnosis (months)	40.7	26.8
BMI (Kg/m^2)	19.9	2.9
Haemoglobin (g%)	9.6	1.5
CD4 ⁺ cell counts	348	192.4

Discussion

In the context of HIV/AIDS, depression is an often overlooked but potentially dangerous condition that can influence not only quality of life, relationships, employment and adherence to medical care, but also perhaps survival. Depression is associated with isolated lives, the absence of pleasure and social and vocational impairment. Depression is also associated with failure to maintain a proper diet and exercise regimen and to adhere to medical care. In the current study, patients were less educated, poor, belonging to reproductive age group and had lower BMIs and had anaemia. Depression was present in 50% of the patients, anxiety in 29.3% and stress in 35.41%. Prevalence of depression was 43.7% in males and 59.9% in females. Prevalence of anxiety was 23.9% in males while 37.8% in females. Also, stress was reported in 30% of males and 43.9% of females. All these morbidities were found more prevalent in females than males, as is also seen in general population. Women having more depression, anxiety and stress were also reported by Gordillo *et al.* (2009) and Wisniewski *et al.* (2005). Also Unnikrishnan *et al.* (2012) reported 51.1% depression in females in their study. Shacham *et al.* (2009) reported that 43% of their subjects suffered from depression (major depression + other depressive disorders) which was quite close to our observations.

Conclusion

Psychiatric manifestations are quite common in HIV patients in the early and the later stages of the disease. It can be summarized from above study that acquired immunodeficiency syndrome, which has become a serious global health problem with diverse clinical and psychiatric manifestations has significant incidence of psychiatric disorders like depression, anxiety and stress.

Table 3. Prevalence of depression, anxiety and stress in patients on anti-retroviral therapy.

DASS Sub-scales	Prevalence (%) in each DASS category					Chi-square value, df and p value
	Normal (0-78) No. (%)	Mild (78-87) No. (%)	Moderate (87-95) No. (%)	Severe (95-98) No. (%)	Extremely severe (>98) No. (%)	
Depression						
Male (n=460)	259 (56.30)	30 (6.50)	67 (14.60)	42 (9.10)	62 (13.50)	18.76,df=1, p<0.0001
Female (n=294)	118 (40.14)	13 (4.42)	50 (17.01)	28 (9.52)	85 (28.91)	
Anxiety						
Male (n=460)	350 (76.10)	23 (5.00)	26 (5.70)	20 (4.30)	41 (8.90)	16.59, df=1, p<0.0001
Female (n=294)	183 (62.24)	11 (3.74)	31 (10.54)	14 (4.76)	55 (18.72)	
Stress						
Male (n=460)	322 (70.0)	39 (8.48)	38 (8.26)	36 (7.83)	25 (5.43)	15.10, df=1, p<0.0001
Female (n=294)	165 (56.12)	23 (7.82)	33 (11.22)	36 (12.24)	37 (12.60)	

Considering significant occurrence of depression in the study population, the psychiatric manifestations need early detection and its treatment together with treatment of HIV disease. It is further concluded that HIV infected population has high prevalence of major depressive disorder in this study population. Along with medical treatment these patients also need support of friends, family and spouse which should improve patient's quality of life.

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