Depression among Persons Attending a HIV/AIDS Outpatient Clinic in Kingston, Jamaica

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ABSTRACT

Objectives: *To determine the prevalence of depression among persons attending a HIV/AIDS clinic in Kingston, Jamaica, and to explore the possible role of patient-specific clinical and social issues as intermediary factors in the relationship between HIV/ AIDS and depression.*

Subjects and Methods: *Over a three-month period, all eligible and consenting patients from a HIV/ AIDS clinic in Kingston, Jamaica, were invited to participate in the study. They were interviewed using the Patient Health Questionnaire (PHQ-9), an instrument validated for the detection of depression in primary care settings. Clinical and socio-demographic data were retrieved for all participating patients from a pre-existing clinic database. Depression prevalence rates were calculated and the association between depression and age, gender, antiretroviral treatment, CD4 count, living arrangement, marital status and major stressors explored.*

Results: *Sixty-three patients participated in the study and 43% (n = 36) of them were depressed. No significant differences in depression rates were found with respect to any of the sociodemographic or clinical factors explored (*$p > 0.05$*).*

Conclusion: *The relatively high prevalence of depression among attendees at the HIV/AIDS clinic underscores the need for depression screening in these patients.*

Key words: AIDS, Depression, HIV

La Depresión entre las Personas que Asisten a la Clínica para Pacientes Externos de VIH/SIDA en Kingston, Jamaica

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RESUMEN

Objetivos: *Determinar la prevalencia de la depresión entre personas que asisten a una clínica de VIH/SIDA en Kingston, Jamaica, y explorar el posible papel de los problemas clínicos específicos y los problemas sociales de los pacientes, como factores intermediarios en la relación entre VIH/SIDA y depresión.*

Sujetos y Métodos: *Por un periodo de más de tres meses, todos los pacientes elegibles y con consentimiento informado de una clínica de VIH/SIDA en Kingston, Jamaica, fueron invitados a participar en el estudio. A tal fin, fueron entrevistados mediante el Cuestionario sobre la Salud del Paciente (PHQ-9), un instrumento validado para la detección de la depresión en los centros de atención primaria. De una base de datos clínicos pre-existente, se obtuvieron datos clínicos y sociodemográficos de todos los pacientes participantes Se calcularon las tasas de prevalencia de depresión y se exploró la asociación entre depresión y edad, género, tratamiento antiretroviral, conteos de CD4, orden de vida, estado civil y estresores principales.*

Resultados: *Sesenta y tres pacientes participaron en el estudio y el 43% (n = 36) de ellos estaban deprimidos. No se hallaron diferencias significativas en las tasas de depresión con respecto a ninguno de los factores sociodemográficos o clínicos explorados (*$p > 0.05$*).*

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Conclusión: *La prevalencia relativamente alta de depresión entre los asistentes a la clínica de VIH/SIDA subraya la necesidad de realizar pruebas de tamizaje de la depresión para estos pacientes.*

Palabras claves: SIDA, depresión, VIH.

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INTRODUCTION

Epidemiological studies indicate that depression is a common disorder (1, 2). Estimates of the lifetime prevalence for this disorder range from 5–17% of the population in the United States of America [USA] (3, 4). In the Global Burden of Disease Report, depression was the fourth leading cause of disease burden among all diseases and accounted for 4.4% of the total Disability Adjusted Life Years [DALYs] (5).

Among persons living with HIV, the prevalence of depression ranges from 0 – 47% (6). Several social, clinical and methodological factors *eg* socio-economic status, progression of HIV disease and sample size have been attributed to this variation (6, 7). To the extent that samples used in studies of depression prevalence differ in defining patient characteristics (*eg* gender, sexual orientation, disease progression) then there are likely to be differences in reported rates. This effect becomes even more magnified when the studies involved in the calculation have small sample sizes, as has been the case in a number of these studies (6). This is because, in comparison to larger studies, smaller ones are generally less representative of the population of interest in terms of the participants' characterisics and the findings resulting from analyses.

Another factor contributing to the variability in depression rates in persons with HIV is that both HIV and depression may present with similar physical symptoms *eg* fatigue and loss of appetite and persons in later stages of HIV disease may demonstrate artificially high rates of depression due to this convergence of symptoms (6).

This is a particularly relevant issue for studies that use populations where persons with advanced HIV disease constitute a significant proportion of the sample. One way to overcome the challenge to the interpretation of prevalence rates posed by the variability of findings is to pool data from a number of studies and conduct a meta-analysis. Ciesla and Roberts (6) did just that and with pooled data on 2596 participants demonstrated a 9.4% prevalence of major depressive disorder among HIV-positive individuals compared to a rate of 5.2% among HIV-negative participants.

Regardless of the actual prevalence, the presence of depression in individuals living with HIV/AIDS has important implications for clinical outcome, quality of life and social and physical functioning (8, 9). Burack *et al* (10), in an eight-year longitudinal study of HIV-infected homosexual men in San Francisco, demonstrated that those who were depressed at the beginning of the study progressed to AIDS on average 1.4 years sooner than those who were not depressed. These findings were not altered when adjusting for baseline demographic variables, CD4 counts and health habits. Similarly, a six to eight-year study of 996 Tanzanian women without access to HAART showed that depression measured over time was associated with a 61% increased risk of clinical progression and over twice the hazard of death (11). Depression in HIV patients has also been linked to poor adherence to antiretroviral medication and therefore, ostensibly, to poorer clinical outcomes (12).

The extent to which HIV and depression coexist has not been well studied in Jamaica. Indeed, even data on the baseline prevalence of depression in the general population is limited as large scale depression surveys have not been performed. There is some indication, however, that depression may be fairly prevalent as demonstrated in a recent lifestyle survey (13).

Apart from the influence of depression on HIV, the influence of HIV on depression has also been studied. It has been suggested that HIV infection alone does not increase the risk of depression, but that other social influences surrounding HIV and chronic diseases in general, are the key factors (14–16). Some factors which might make HIV-positive persons particularly vulnerable to depression include difficulty in adjusting to the reality of having a serious and potentially terminal illness. It was shown in one study that suicidal behaviours among HIV-positive patients were highest during the first week after the revelation of their seropositive status (17). Female gender, high caregiver burden, the experiencing of social stigma, poor social support, poverty and poor healthcare have also been identified as intermediary factors in the association between HIV infection and depression (6, 18–20). Substance abuse also has a strong association with the occurrence of major depressive disorders in the HIV population. A study conducted by Berger-Greenstein *et al* (21) showed a significantly higher incidence of major depressive disorders in HIV-positive persons who were substance abusers than those who were not.

We hypothesize that there is a high prevalence of depression among persons living with HIV/AIDS and being treated in a specialist clinic in Kingston, Jamaica. Further, we expect that patient-specific clinical and social issues may be important intermediary factors in the relationship between HIV/AIDS and depression.

SUBJECTS AND METHODS

Ethical considerations

Approval for this study was sought and obtained from the Ethics Committee of the Faculty of Medical Sciences at The University of the West Indies/University Hospital of the West

Indies, Mona Campus. Informed consent was sought from all prospective participants. Only consenting persons became participants in the study.

This was a cross-sectional study conducted on patients attending a specialist clinic for persons living with HIV/ AIDS (PLWHA) at the University Hospital of the West Indies in Kingston, Jamaica.

All eligible patients who attended the clinic over a three-month period and who did not meet the study's exclusion criteria, were invited to participate in the study. Eligible patients were those who were 18 years and older, HIV-positive and stable enough to complete the study interview. Patients with a major problem of cognition and/or insurmountable communication difficulties (*eg* hearing loss not adequately improved with a hearing aid) were automatically excluded, as per the exclusion criteria.

Patients were interviewed using the nine item Patient Health Questionnaire [PHQ-9] (22). This instrument allows the diagnosis of depression as well as the determination of depression severity and treatment response (22). It was developed primarily for use in non-psychiatric primary care clinical populations and has been utilized in various studies on depression in different cultural contexts around the world (23–25). It has demonstrated sensitivity for depression ranging from 87%–98% (24, 25) and specificity between 80% and 88% (24, 25).

Data analysis

Data related to patients' demographic features, clinical status and social situation were retrieved from the systematic database which routinely stores this information on all clinic attendees. Data from all sources were then analysed using the Statistical Package for the Social Sciences (SPSS, version 12.0).

Rates of depression were calculated among various subgroups of patients, according to depression scores from the PHQ-9. The possible associations of the presence and severity of depression with a number of clinical and socio-demographic variables were explored using appropriate parametric and non-parametric tests. Specifically, the Chi-square and Fisher's exact tests were used in the exploration of associations between two categorical variables (*eg* marital status and presence or absence of depression) and the *t*-test for the exploration of associations between continuous and categorical variables (*eg* CD4 count and presence or absence of depression).

RESULTS

A total of 63 patients were interviewed. The mean age (± SD) in years was 40.0 (± 10.9). Fifty-one per cent of the study participants were male and 49 % were female. As shown in Table 1, of the patients studied, 43% (n = 27) met the criteria for depression. Of the total sample of patients (n = 63), 14% (n = 9) had mild depression and 29% (n = 18) had moderate to severe depression.

Table 1: Patients meeting criteria for depression (PHQ-9 Score >4) at an HIV/AIDS outpatient Clinic in Kingston, Jamaica

	Depression		No Depression		Total
	n	%	n	%	
Total	27	43	36	57	63

Of those persons who met the criteria for depression, the majority (58%) were female, although no statistically significant gender differences were demonstrated in depression rates, $p = 0.295$ (Chi-square test). The mean age in years of those who were depressed was 37.9 (± 9.7) compared to a mean age of 42.4 (± 11.4) for those who were not depressed, $p = 0.111$ (*t*-test).

Table 2 shows the relationships between depression status (absent or present) and a number of clinical and socio-demographic variables. The presence or absence of depression had no significant association with type of treatment, CD4 count, living arrangement, marital status or stressors identified by patients. No significant associations could be found in any of these areas even when the number of categories for describing patient characteristics were reduced *eg* treatment categories condensed to treatment or no treatment.

Table 2: Clinical issues, social factors and depression status in patients living with HIV/ AIDS at a specialist clinic in Kingston, Jamaica

	Depression n (%)	No Depression n (%)	Missing cases	*P* value
HAART[1] Regime			4	0.818[4]
No Treatment	3 (33.3)	6 (66.7)		
PI[2] Based	7 (43.8)	9 (56.3)		
NNRTI[3] Based	16 (47.1)	18 (52.9)		
CD4 count (mean)	471.5	402.2	3	0.378[5]
Living Arrangement			20	0.616[4]
Alone	5 (55.6)	4 (44.4)		
Family	9 (37.5)	15 (62.5)		
Partner	4 (50.0)	4 (50.0)		
Other	1 (50.0)	1 (50.0)		
Marital Status			8	0.532[4]
Single	15 (38.5)	24 (61.5)		
Married/CL	8 (53.3)	7 (46.7)		
Divorced/Separated	0 (0.0)	1 (100.0)		
Major Stressor			0*	0.447[6]
HIV	9 (36.0)	16 (64.0)		
Other	17 (53.1)	15 (46.9)		

[1]Highly active anti-retroviral therapy; [2]Protease inhibitor

[3]Non-Nucleoside reverse transcriptase inhibitor;

[4]Derived from Fisher's Exact test; [5]Derived from *t*-test

[6]Derived from Chi-square test

*All 57 patients who admitted to having a stressor were included in the analysis

In those patients who met the PHQ-9 criteria for depression, 33.3%, identified their HIV illness as the most stressful factor in their lives (n = 9). Other significant

stressors included financial (29.6%, n = 8) and employment status (22.2%, n = 6). The majority of the remainder of patients found interpersonal relationships, including social stigma, to be the most stressful factor in their lives (11.1%, n = 3).

DISCUSSION

The findings from this study indicate that the prevalence of depression among HIV-positive persons is 43% which is among the higher rates reported in the literature (6). This comparatively high rate emphasizes the need to identify and treat depression in persons with HIV at their study-site. To ignore the high prevalence of depression could result in unnecessary negative outcomes such as diminished quality of life and poor clinical progress (8–10) among others which have already been discussed. To this end, screening for depression in persons with HIV would be useful.

The ideal screening instrument would be quick, easy to interpret and sensitive. Such instruments do exist for depression. One example is the PHQ-2, a two-question screen derived from the PHQ-9, which has shown fairly high sensitivity (85%) and specificity (95%) for PHQ-9 diagnosed depression in PLWHA in Kenya (26).

There was no significant relationship identified between depression and the use of highly active antiretroviral treatment (HAART); nor was any significant difference in the rate of depression found to be associated with the type of antiretroviral used. Efavirenz, a non-nucleoside reverse transcriptase inhibitor, has been shown to have a strong association with adverse neuropsychiatric manifestations including depression and suicidal tendencies (27, 28). However, many studies have also shown that these neuropsychiatric adverse manifestations occur mainly during the first month of efavirenz therapy (28). The present study did not support an association between type of treatment and depression. This has also been the case in numerous other studies which have shown no differences in the incidence of depression between efavirenz and protease inhibitor-based regimens (29).

Similar to a study conducted in Ontario, Canada (30), this present study also found an absence of association between depression and socio-demographic characteristics in PLWHA. However, there is scope for more research for examining parameters not included in this study which could provide guidance for targeted interventions. These would include the exploration of factors such as substance abuse and poverty which have shown some association with depression in persons with HIV in other settings (7, 21).

In the Ontario study (30), among the more significant associations demonstrated was one between health status and depression. No such association was demonstrated in this study. The absence of an association was, however, not a unique finding. Fincham *et al* (31), for example, obtained a similar result in a larger study of 456 HIV-infected adults in South Africa which also examined CD4 counts. Ciesla *et al* (6) also failed to show any association between depression and stage of HIV disease. The absence of an association may be related on the one hand to the heightened likelihood of adjustment problems, including manifestations such as depression, in the early stages of the infection, and on the other to the heightened presence of depressive-like symptoms in the more severe stages of the disease. In other words, there are different risk factors along the spectrum of HIV disease progression that would contribute to a heightened risk for depressive symptoms.

A number of limitations are identified in this study. The generalizability of the findings is limited by the sample size, and by extension, the statistical power of the analyses. It is possible that had a larger sample been used, statistically significant findings might have been generated. In addition, previous psychiatric illness has been found to significantly increase the risk of depression in the HIV-positive population (19, 20). Unfortunately, this study population was not screened for previous psychiatric illness and we are therefore unable to comment on the impact this may have had on the participants and on the results. Another limitation to the interpretation of the findings of this study is related to the possibility of response bias. Participants may have been reluctant to share completely accurate information with the interviewers because of the social stigma associated with HIV infection and some of the other issues explored. The presence of missing data may have also biased the findings.

In conclusion, one must acknowledge the possible influence of the above mentioned limitations on the absence of any significant relationships among the variables explored. On the other hand, the rate of depression found is consistent with the high end of the range usually reported in the literature and certainly highlights the need to implement depression screening among this population of patients. Further research on intermediary factors between HIV infection and depression in this population would facilitate targeted screening, thus enhancing its efficiency and feasibility.

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