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ORIGINAL ARTICLE

Suicide risk and alcohol and drug abuse in outpatients with HIV infection and Chagas disease

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Objective: To evaluate psychiatric comorbidities in outpatients receiving care for HIV and Chagas disease at Instituto de Pesquisa Clínica Evandro Chagas (IPEC), Fundação Oswaldo Cruz (Fiocruz), Rio de Janeiro, Brazil.

Methods: Cross-sectional study with a consecutive sample of 125 patients referred to an outpatient psychiatric clinic from February to December 2010. The Mini International Neuropsychiatric Interview (MINI) was used. Factors associated with more frequent mental disorders were estimated by odds ratios (OR) with 95% confidence intervals (95%CI) by multiple logistic regression.

Results: Seventy-six (60.8%) patients with HIV, 40 (32%) patients with Chagas disease, and nine (7.2%) patients with human T-lymphotropic virus were interviewed. The majority were women (64%), with up to 8 years of formal education (56%), and unemployed (81.6%). The median age was 49 years. Suicide risk (n=71) (56%), agoraphobia (n=65) (52%), major depressive episode (n=56) (44.8%), and alcohol/drug abuse (n=43) (34.4%) predominated, the latter being directly associated with lower family income (OR = 2.64; 95%CI 1.03-6.75) and HIV infection (OR = 5.24; 95%CI 1.56-17.61). Suicide risk was associated with non-white skin color (OR = 2.21; 95%CI 1.03-4.75), unemployment (OR = 2.72; 95%CI 1.01-7.34), and diagnosis of major depression (OR = 3.34; 95%CI 1.54-7.44).

Conclusion: Measures targeting adverse socioeconomic conditions and psychiatric and psychological monitoring and care should be encouraged in this population, considering the association with abuse of alcohol/other psychoactive drugs and suicide risk.

Keywords: Mental disorder; infectious disease; suicide; HIV; Chagas disease

Introduction

Chronic diseases, whether infectious or noncommunicable, can cause or aggravate mental disorders, either as an individual response to the disease through direct action on the central nervous system (CNS), by affecting immunity, or as a side effect of specific treatment.[1,2]

Approximately 20-52% of patients infected with the human deficiency virus (HIV) are diagnosed with one or more mental disorders, a rate twice to three times higher than that of the general population.[3,4] The most frequent are mood disorders, alcohol/drug abuse,[5] anxiety disorder, and psychotic spectrum disorders.[6]

An association between chronic human T-lymphotropic virus (HTLV-1) infection and mental disorders was suggested in two Brazilian studies.[7,8] The first study found a higher frequency of depression in HTLV-1-positive blood donors (45.5%) as compared with seronegative blood donors (18.8%, p = 0.05),[7] whereas the second study detected a 42% rate of psychiatric comorbidities, mainly mood and anxiety disorders.[8]

CNS involvement can occur in the acute or chronic forms of Chagas disease,[9] although it is controversial in the latter, and was reported as a slight, unspecific cortical functional disturbance and possible white matter lesions in chronic Chagas disease patients.[10] In a sample of 110 patients with Chagas disease recruited from a specialized teaching hospital, 40.9% were found to have depressive symptoms as assessed through the Beck Depression Inventory (BDI), with no differences in symptom intensity according to sex, age, or marital status.[11]

Mental disorders are known to be triggers of great psychic suffering, most of the time not identified by the physician,[1] and are predisposing factors for suicide attempts.[12] Detection of these disorders is crucial, considering the 4.9% prevalence of suicide risk in hospitalized patients, which is even higher among those with infectious diseases (7.9%), malignancies (7.8%), and hematological disorders (7.2%).[13]

Therefore, we believe that the comorbidity of mental disorders with infectious diseases such as HIV/AIDS, Chagas disease, and HTLV-1 infection needs to be appropriately investigated and managed so as to assist in

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the therapeutic effectiveness and prevention of complications (low adherence to the treatment, drug interactions, suicide risk, and psychoactive substance use).[1,3,5,14]

The objective of this study was to evaluate the most frequent psychiatric comorbidities and factors associated with chronic outpatients referred to psychiatric treatment seen at a specialized infectious diseases institute.

Methods

This is a cross-sectional study on the basis of clinical and structured psychiatric history data from patients selected consecutively from the outpatient psychiatric clinic at Instituto de Pesquisa Clínica Evandro Chagas, Fundação Oswaldo Cruz, Rio de Janeiro, Brazil, from February to December 2010.

The minimum sample size was calculated as 125 patients to estimate a frequency of mental disorders of 35%, as obtained from preliminary data, with an absolute error of 0.11, an alpha error of 0.05, and a beta error of 20%.

Patients aged $\geqslant$ 18 years, with a diagnosis of HIV or HTLV-1 infection or Chagas disease (according to the Brazilian Ministry of Health criteria),[9,15,16] with or without clinical manifestations of the underlying disease, and who had completed at least two psychiatric visits and signed an informed consent form were included. Patients with a clinical diagnosis of mild, moderate, or severe mental retardation according to DSM-IV criteria[17]; altered level of consciousness; auditory and/or visual impairments that would prevent administration of the study instruments; stroke, dementia, or progressive multifocal leukoencephalopathy; or other infectious diseases, such as tuberculosis, leishmaniasis, or sporotrichosis, were excluded.

The Mini International Neuropsychiatric Interview Plus (MINI-Plus 5.0) was administered for standardized diagnosis of 17 DSM-IV axis I mental disorders and evaluation of possible organic causes or use of medication, recreational drugs, or alcohol, in addition to suicide risk and antisocial personality disorder. Reduction of multiple diagnostic criteria according to the MINI-Plus algorithm was performed.[18] Suicide risk (five questions, score range 0-33 points) in the last 30 days was classified as low (1-5), moderate (6-9), or high ($\geqslant$ 10). Psychiatric evaluation of all patients was performed by the study coordinating psychiatrist (PMQG) after training in MINI-Plus administration.[18]

Sociodemographic variables were collected during the interview. Clinical variables (diagnostic and severity grade according to the Brazilian Ministry of Health,[9,16,19] disease duration, CD4 count [cells/mm^3], and HIV viral load [copies/mL], clinical comorbidities, and drug use) were extracted from patients' medical charts. Clinical classification of HIV infection was performed at the time of interview, using the criteria published by the U.S. Centers for Disease Control and Prevention (CDC),[20] as asymptomatic (category A) or symptomatic (categories B or C). Chagas disease was classified as cardiac, digestive, cardiac plus digestive, or undetermined.[9]

Data were entered into the EpiData 3.1 software and analyzed in SPSS version 16.0. Alcohol or psychoactive substance abuse/dependence were pooled for analysis. The chi-square test or Fisher's exact test were used for categorical variables, and the Student *t* test or the Mann-Whitney *U* test for nonparametric variables, with 5% significance. Odds ratios (OR) were estimated with respective 95% confidence intervals (95%CI).[21]

Two multiple logistic regression analyses, using the stepwise backward method, were conducted to identify factors associated with drug abuse/dependence and with suicide risk (the three grouped categories). Collinearity was evaluated with a matrix of correlations, using the Spearman rank correlation coefficient between independent variables. The 10% statistical significance level was adopted for variable selection in multiple models, in addition to clinical relevance and biological plausibility. Variables significant at the 5% level were kept in the final model. The importance of each variable in its contribution to the final model was verified through the Wald and likelihood ratio tests. Model fit was evaluated by a goodness-of-fit test.[22]

This study was approved by the Instituto de Pesquisa Clínica Evandro Chagas (IPEC) Ethics Committee on November 16, 2009, under number 0063.0.009.000-09 (Opinion 067/2009).

Results

Sociodemographic and clinical characteristics of the sample

During the study period, 371 patients were seen. One hundred and twenty-five patients matching the inclusion criteria were consecutively enrolled: 74 (59.2%) with HIV/AIDS, 40 (32.0%) with Chagas disease, nine (7.2%) with HTLV-1 infection, and two (1.6%) with HIV/HTLV-1 co-infection. The primary reasons for exclusion were: 30 patients with other infectious diseases (leishmaniasis, tuberculosis and sporotrichosis); 21 patients with no infectious diseases; 148 patients with HIV, 39 with Chagas disease, and 10 with HTLV-1 infection who only completed one outpatient visit or presented with cognitive or sensory impairment.

Most of the interviewed patients were women (64%), with up to 8 years of formal education (56%), a family income equal to or greater than two times the minimum wage (54.4%), homeowners (68%), and unemployed at the time of the interview (81.6%) (Table 1). Median age (interquartile range [IQR]) was 48 years (IQR 41.0-52.5) for men and 49 years (IQR 42.3-59.0) for women. Among patients unemployed at the time of the interview, 27 (26.5%) were retired due to their underlying disease, and only nine (8.8%) were retired for seniority; 27 others (26.5%) were receiving disability benefits. Only two patients were retired due to a mental disorder.

Among the 125 enrolled patients, the majority (84.8%) presented two or three clinical comorbidities, the most frequent of which were hypertension (n=42, 33.6%), dyslipidemia (n=32, 25.6%), and cardiomyopathy, cardiac

Table 1 General characteristics of 125 psychiatric outpatients treated at an infectious diseases institute in Rio de Janeiro, Brazil, February-December 2010

Sociodemographic characteristics	n	%
Sex		
Female	80	64.0
Skin color		
Non-white	64	51.2
White	61	48.8
Place of birth (geographic regions of Brazil)		
Southeast	89	71.2
Northeast	32	25.6
South/Central-west	4	3.2
Highest educational attainment		
No formal schooling	14	11.2
1-4 years	21	16.8
> 4-8 years	35	28.0
> 8-11 years	24	19.2
⩾ 12 years	31	24.8
Marital status*		
Unmarried	65	52.0
Religion		
Yes	101	80.8
Household income		
⩾ 2× minimum wage	68	54.4
Housing status		
Owned	85	68.0
Rented	28	22.4
Other	12	9.6
Occupation		
Higher managerial and professional	14	11.2
Technical	4	3.2
Lower managerial and professional/manual	87	69.6
Homemaker	20	16.0
Employment (current)		
No	102	81.6

* Formal union.

arrhythmia, or electrocardiographic abnormalities (n=31, 24.8%).

Among patients with HIV infection, most (77.6%) had stable clinical AIDS; 84.2% presented with a viral load of ⩽ 400 copies/mL (below the threshold of detection), more than half (59.2%) had CD4 cell counts of ⩾ 500 cells/mm^3, and the majority were on antiretroviral (ARV) therapy (88.2%) at the time of the interview. Two-thirds of those with Chagas disease presented with the cardiac form. Six patients exhibited clinical manifestations of HTLV-1-infection.

Psychiatric disorders

A median of three (range, one to seven) psychiatric comorbidities were observed per patient. The most frequent were suicide risk (56.8%), agoraphobia (52%), major depressive episode (44.8%), generalized anxiety disorder (23.2%), alcohol abuse/dependence (20.8%), and other substance (not alcohol) abuse/dependence (13.6%) (Table 2). The intensity of suicide risk was low in 37, moderate in five, and high in 29 patients.

Table 2 Psychiatric comorbidities according to MINI-Plus in 125 psychiatric outpatients treated at an infectious diseases institute in Rio de Janeiro, Brazil, February-December 2010

Mental disorders	n	%
Mood disorders		
Major depressive episode (current) (2 weeks)	56	44.8
Major depressive episode (past)	26	20.8
Dysthymia (past)	14	11.2
Bipolar I disorder with psychotic features (past)	6	4.8
Bipolar I disorder with psychotic features (current)	3	2.4
Mood disorder due to a general medical condition (past)	2	1.6
Manic episode due to a general medical condition (past)	1	0.8
Major depressive disorder with psychotic features (current)	1	0.8
Major depressive disorder with psychotic features (past)	1	0.8
Mood disorder with psychotic features (lifetime)	1	0.8
Anxiety disorders		
Agoraphobia (current)	65	52.0
Generalized anxiety disorder (current) (past 6 months)	29	23.2
Panic disorder (current) (past month)	15	12.0
Obsessive-compulsive disorder (current) (past month)	15	12.0
Specific phobia (current)	11	8.8
Panic disorder (lifetime)	11	8.8
Social phobia (current) (past month)	3	2.4
Posttraumatic stress disorder (current) (past month)	3	2.4
Psychotic disorders		
Schizophrenia (lifetime)	5	4.0
Substance-induced psychotic disorder (lifetime)	3	2.4
Psychotic disorder NOS (lifetime)	3	2.4
Psychotic disorder (lifetime)	1	0.8
Somatoform disorders		
Pain disorder (current)	4	3.2
Somatization disorder (lifetime)	1	0.8
Alcohol abuse/dependence*	26	20.8
Drug abuse/dependence (non-alcohol)*	17	13.6
Suicide risk (current) (past month)†	71	56.8
Antisocial personality disorder (lifetime)	4	3.2
Adjustment disorder (current)	1	0.8
Attention deficit/hyperactivity disorder (adults)	2	1.6
Premenstrual dysphoric disorder (current)	1	0.8
Mixed anxiety-depressive disorder (current)	1	0.8
Total number of diagnoses (not mutually exclusive)	403	

MINI-Plus = Mini-International Neuropsychiatric Interview; NOS = not otherwise specified.
* Pooled: lifetime and past 12 months.
† Pooled: low, medium, and high suicide risk.

The median time from diagnosis of the underlying disease to initiation of psychiatric care was 58.5 months (IQR 14.4-139.7) for patients with HIV and 80.9 onths (IQR 31.1-171.2) for patients with Chagas disease. The median number of prior visits to the outpatient psychiatry clinic was 11 (IQR 4-17).

Most patients (96%) were using two (median, range one to four) psychoactive drugs at the time of the interview, which was conducted approximately 46 months (IQR 27-72) before the time of writing. The most commonly used drugs were benzodiazepines (98 patients [81.7%]) and selective serotonin reuptake inhibitors (84

patients [70%]). Twenty-eight patients (23.3%) used tricyclic antidepressants, 15 (12.5%) used anticonvulsant mood stabilizers, and 12 patients (10%) received typical antipsychotics.

Over two-thirds (68.8%) of patients had not undergone previous psychiatric outpatient treatment and the majority did not report inpatient psychiatric admission (91.2%). Only 17 patients (13.6%) were receiving psychological or psychotherapeutic support at the time of the interview, although more than half had already received psychotherapeutic care (52%).

Factors related to substance abuse and suicide risk

In this sample, major depressive episode was not associated with any clinical, psychiatric, or sociodemographic characteristics.

Suicide risk was associated with non-white skin color (OR = 2.21; 95%CI 1.03-4.75), unemployment (OR = 2.72; 95%CI 1.01-7.34), and diagnosis of major depression (OR = 3.34; 95%CI 3.34-7.44). Family income lost statistical significance in the multiple regression model (Table 3). Time since HIV diagnosis was shorter (97.3±69.3 months) for patients with suicide risk compared to those without this risk (137.8±88.4 months). Patients with suicide risk have not differed from the other patients regarding age, education, CD4 cell counts, and psychiatric treatment duration.

The rate of alcohol and substance abuse/dependence was 1.6 times higher in patients with a lower family income (less than twice the minimum wage), approximately four times higher in patients with HIV, and 1.4 times higher in those with a longer duration of psychiatric treatment (Table 4). Formal or consensual marriage lost statistical significance.

Table 3 Univariate and logistic analysis of sociodemographic and clinical factors associated with suicide risk in 125 psychiatric outpatients treated at an infectious diseases institute in Rio de Janeiro, Brazil, February-December 2010

	Yes		No					
Characteristics	n	%	n	%	Crude OR	95%CI	Adjusted OR*	95%CI
Sex								
Male	28	39.4	17	31.5	1.42	0.67-2.99	-	-
Female	43	60.6	37	68.5	1	-		
Skin color								
Non-white	42	59.2	22	40.7	2.11	1.03-4.33	2.21	1.03-4.75
White	29	40.8	32	59.3	1	-		
Employment (current)								
No	62	87.3	40	74.1	2.41	0.95-6.09	2.72	1.01-7.34
Yes	9	12.7	14	25.9	1	-		
Religion (current)								
Yes	56	78.9	45	83.3	0.75	0.30-1.87	-	-
No	15	21.1	9	16.7	1	-		
Marital status								
No	39	54.9	26	48.1	1.31	0.65-2.67	-	-
Yes	32	45.1	28	51.9	1	-		
Household income								
$< 2\times$ minimum wage	38	53.5	19	35.2	2.12	1.03-4.39	-	-
$\geqslant 2\times$ minimum wage	33	46.5	35	64.8	1	-		
Underlying medical condition								
HIV infection†	45	70.3	31	59.6	1.60	0.74-3.47	-	-
Chagas disease	19	29.7	21	40.4	1	-		
HIV clinical classification								
Asymptomatic‡	11	24.4	6	19.4	1.35	0.44-4.14	-	-
Symptomatic§	34	75.6	25	80.6	1	-		
Viral load								
$\leqslant$ 400 copies/mL	38	84.4	26	83.9	1.04	0.30-3.65	-	-
$>$ 400 copies/mL	7	15.6	5	16.1	1	-		
Major depressive episode (current)								
Yes		40	53.6	16	3.07	1.45-6.48	3.34	1.54-7.44
No		31	43.7	38	1	-		
Abuse/dependence of alcohol/other drugs								
Yes		20	28.2	10	1.73	0.73-4.08		
No		51	71.8	44	1	-		

95%CI = 95% confidence interval; OR = odds ratio.
* Adjusted odds ratio for skin color, current employment, household income, and major depressive episode disorder (current).
† Including two patients with HIV/HTLV co-infection.
‡ Asymptomatic: category A.
§ Symptomatic: categories B and C.

Agoraphobia was directly associated with living alone (OR = 11.1; 95%CI 2.45-50.3), and did not differ much regarding other clinical, psychiatric, and sociodemographic characteristics.

Discussion

In this study, patients undergoing clinical treatment for chronic infectious diseases (HIV and Chagas) presented with a high rate of licit and illicit substance use, as well as suicide risk, at levels that may affect their safety and clinical progress.

The most prevalent mental disorders in our sample were suicide risk (56.8%), agoraphobia (52%), current or past major depressive episode (44.8% and 20.8%, respectively), generalized anxiety disorder (23.2%), and alcohol abuse/dependence (20.8%). Such prevalences are higher than those detected in a previous study among carriers of noncommunicable chronic diseases (major depressive disorder, 17.6%; generalized anxiety disorder, 11.5%; dysthymia, 11.3%) using the Structured Clinical Interview for DSM Disorders (SCID-IV-TR).[23] Similar to our results, a study conducted in a population from the Family Health Program using the Composite International Diagnostic Interview (CIDI) detected a median of three psychiatric diagnoses per patient; 56% had common mental disorders (anxiety, 40%, depressive disorders 45%) and 11% had mental disorders due to alcohol use.[24]

In the present study, the odds of alcohol and/or psychoactive substance abuse/dependence were higher among individuals living with HIV/AIDS. Several studies have found that the most frequent mental disorders in HIV-positive individuals are mood disorders,[4] alcohol and psychoactive abuse and/or dependence,[5] anxiety, and psychotic spectrum disorders.[6] In a sample of 465 HIV-infected patients, most of whom were young women

Table 4 Univariate and logistic analysis of sociodemographic and clinical factors associated with abuse/dependence of alcohol and/or other psychoactive substances in 125 psychiatric outpatients treated at an infectious diseases institute in Rio de Janeiro, Brazil, February-December 2010

	Yes		No				Adjusted	
Characteristics	n	%	n	%	Crude OR	95%CI	OR*	95%CI
Sex								
Male	15	50.0	30	31.6	2.17	0.94-5.00	-	-
Female	15	50.0	65	68.4	1	-		
Skin color								
Non-white	18	60.0	46	48.4	1.60	0.69-3.68	-	-
White	12	40.0	49	51.6	1	-		
Employment (current)								
No	25	83.3	77	81.1	1.17	0.39-3.47	-	-
Yes	5	16.7	18	18.9	1	-		
Religion (current)								
Yes	22	73.3	79	83.2	0.56	0.21-1.47	-	-
No	8	26.7	16	16.8	1	-		
Marital status								
No	22	73.7	43	45.3	3.33	1.35-8.22	-	-
Yes	8	26.7	52	54.7	1	-		
Household income								
$< 2\times$ minimum wage	19	63.3	38	40.0	2.59	1.11-6.05	2.64	1.03-6.75
$\geqslant 2\times$ minimum wage	11	36.7	57	60.0	1	-		
Underlying medical condition								
HIV infection[†]	24	85.7	52	59.1	4.15	1.33-13.0	5.24	1.56-17.61
Chagas disease	4	14.3	36	40.9	1	-		
HIV clinical classification								
Asymptomatic[‡]	3	12.5	14	26.9	0.39	0.10-1.51	-	-
Symptomatic[§]	21	87.5	38	73.1	1	-		
Viral load								
$\leqslant$ 400 copies/mL	21	87.5	43	82.7	1.47	0.36-5.98	-	-
$>$ 400 copies/mL	3	12.5	9	17.3	1	-		
Duration of psychiatric treatment (years), mean $\pm$ SD	3.3$\pm$1.7		2.6$\pm$1.9			p-value[¶] 0.073	1.39	1.07-1.81

95%CI = 95% confidence interval; OR = odds ratio; SD = standard deviation.
* Adjusted odds ratio for sex, marital status, household income, baseline disease, and duration of psychiatric treatment (years).
† Including two patients with HIV/HTLV co-infection.
‡ Asymptomatic: category A.
§ Symptomatic: categories B and C.
¶ Student's *t* test.

(75%) on ARV therapy, the predominant disorders were major depressive episode (14%), alcohol abuse/dependence (7%) and posttraumatic stress disorder (5%).[25]

The detected association between family income below two minimum wages and excessive alcohol/drug abuse strengthens the association between socioeconomic status and occurrence of mental disorders in a population of individuals with chronic disease, as previously suggested in a review article[26] covering the period of 1997-2009 and in two Brazilian studies that identified an overall prevalence of mental disorders of 36% in individuals with a per capita income below 50 Brazilian reais[27] and of 30.2% in unemployed individuals with low educational attainment.[23]

Current frequency of suicide risk (past month) was high (56.8%) in this population, associated with unemployment, non-white skin color, and diagnosis of major depression, which is more concerning considering that suicidal behaviors are known to be associated with HIV infection[28,29] and that this risk is higher among those with a prior history of suicide attempt[30] and in those with social and psychological stressors, such as unemployment or having an HIV-positive partner.[29]

Despite the lack of consensus and the different methods for data collection on suicide, several studies have investigated the prevalence of suicidal ideation and suicide attempt in HIV-positive patients. In New York, among 207 HIV-positive women from an ethnic minority background, 78% presented with suicidal ideation and 26% had attempted suicide.[31] In Nigeria, 34.7% of 150 individuals living with HIV/AIDS had expressed suicidal ideation in the past month, and 9.3% had a suicide attempt in the last 6 months. Factors associated with suicidal ideation were female sex, unemployment, clinical comorbidity, living alone, and having an HIV-positive partner.[32] A sectional study conducted in six American hospitals identified a 26% rate (405/1,560) of suicidal ideation throughout life and 13% (204/1,560) suicide attempts. Patients with suicidal ideation presented higher rates of depressive disorder, and those with a history of suicide attempts presented higher rates of alcohol abuse.[33] Mood disorder was considered the more prevalent psychiatric condition in HIV-positive patients and a challenge for liaison psychiatry consultation.[34] Suicide risk has also described in patients with chronic and oncologic diseases[13] and approximately 90% of individuals who commit suicide present a mental disorder.[12] On the other hand, Botega et al.[12] detected low rates among hospitalized patients (4.9%), even those with infectious diseases (7.9%), but these authors did not include patients with mild suicide risk in their analysis.

Data from the literature suggest that, on the one hand, alcohol or illicit drug abuse and psychiatric comorbidities are associated with low adherence to highly active antiretroviral therapy,[14] whereas on the other hand, viral load below the limit of detection[35] is a predictor of adherence. Moreover, a study of 4,989 outpatients conducted at five American hospitals observed that patients with six or more annual psychiatric visits had fewer episodes of ARV discontinuation (OR = 0.57, 95%CI 0.47-0.69) compared to those not receiving psychiatric treatment.[36] Despite the high frequency of psychiatric comorbidities, the vast majority of patients in the present study (94%) had undetectable plasma viral loads ($\leqslant$ 400 copies/mL), suggesting appropriate adherence to the treatment of their underlying disease, and it is reasonable to assume that the psychiatric care provided (most patients were in supportive care for five or more visits) may have counterbalanced the high prevalence of psychiatric comorbidities in these patients. However, a longitudinal study design would be required to test this hypothesis.

According to data from the Brazilian Ministry of Social Welfare, mental and behavioral disorders are among the main reasons for granting disease benefits and disability retirement.[37] However, in the present study, only two patients were retired exclusively due to a mental disorder, probably because the most frequent psychiatric diagnoses were not subject to retirement allowances. In contrast, the prevalence of patients who were not working (81.6%) was substantial; of these, 26.5% had retired due to their underlying disease or on disability benefits (26.5%). Severity of clinical disease was probably the reason for granting disability benefits in 32 (80%) patients with symptomatic Chagas disease and in the majority (77.6%) of those with HIV classified as AIDS.

Few published studies have employed diagnostic instruments for assessment of psychiatric disorders in patients with Chagas disease. Ozaki et al.[11] found a 40.9% frequency of depressive symptoms as assessed with the BDI in 110 patients with Chagas diseased followed at an outpatient referral clinic at the Hospital das Clínicas da Universidade Estadual de Campinas, state of São Paulo. A similar finding was observed in the present study, where 37.5% of the patients with Chagas disease referred to the outpatient psychiatry clinic met diagnostic criteria for a current depressive episode. To the best of our knowledge, this is the first study to apply the MINI-Plus tool for the diagnosis of a DSM-IV axis I mental disorder in patients with Chagas disease.

We hope that the possible classification bias associated with diagnoses recorded in medical charts has been minimized, as this is a clinical trial unit that adopts standardized protocols for diagnosis and clinical staging as recommended by the Brazilian Society of Infectious Diseases. Although not random, patient inclusion was consecutive among the patients referred to the outpatient psychiatry clinic, without selection biases related to the day of the visit or to the therapist, and with no demographic and clinical differences between those included and those who did not meet the inclusion criteria. The predominant profile of the psychiatric patients evaluated in this study – female, in the fifth decade of life, with low educational attainment and a low family income – resembled that of the patients with mental disorders covered by the Family Health Program in a previous study[38] and that of patients observed in a home survey of minor mental disorders in an urban area.[39]

This study identified a high frequency of suicide risk and licit and illicit substance abuse/dependence among

patients with HIV and Chagas disease receiving psychiatric treatment for 5 years. These factors can interact with psychoactive and antiretroviral drugs used and may influence treatment outcomes. Investigation and prevention strategies for these disorders should be implemented, as previously suggested by Maccaferri et al.[34] Patients with depressive-anxious symptoms and alcohol/substance abuse are in particular need of psychiatric and psychotherapeutic care so as to minimize suicide risk and contribute to the effectiveness of clinical treatment.

Disclosure

The authors report no conflicts of interest.

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