Self-rated health by HIV-infected individuals undergoing antiretroviral therapy in Brazil

Autoavaliação do estado de saúde por indivíduos infectados pelo HIV em terapia antirretroviral no Brasil

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Abstract

In 2008, a survey was applied to a probabilistically selected sample of 1,245 HIV-infected patients on antiretroviral therapy in Brazil. In this work, the analysis was focused on self-rated health. The analysis was conducted according to sex, age, socioeconomic variables, and clinical and treatment-related patient characteristics. Through stepwise logistic regression procedures, the main predictors of good perception of health status were established. Results showed that 65% self-rated health state as good or excellent, 81% do have no or slight difficulty in following treatment, but 34% men and 47% women reported intense or extreme degree of anxiety/worry feelings. Educational level, work situation, presence of side effects and AIDS-related symptoms were the main predictors of good self-perception of health. Problems related to animus status, involving worry and anxiety about the future are still barriers that must be overcome to improve quality of life of people living with HIV/AIDS.

Highly Active Antiretroviral Therapy; HIV; Self-Assessment; Affect

Introduction

The self-rated health is a measure that has been widely employed in epidemiological surveys to describe the health status of a population [1]. It is considered a useful and easily measured indicator, which has been used to establish differences in morbidity in population subgroups, compare needs for health services and resources by geographic area and to calculate other indicators of morbidity and mortality such as the healthy life expectancy [2,3].

Personal perception of health status has been considered an important indicator by itself, since an individual's well-being can affect motivation and quality of life. On the other hand, self-evaluations are also useful due to their validity, established in relation to clinical status and morbidity and mortality indicators [4,5].

Studies have shown that the individual perception of health frequently agrees with medical evaluation [6]. In terms of mortality, since 1982, when researchers first proved the association between poor self-assessment of health status and increased risk of death among the elderly [7], several studies have shown that poor self-rated health is an important indicator of reduced survival [8,9,10].

While an objective health evaluation from a medical point of view seeks to identify disease, as indicated by a set of signs, symptoms and laboratory tests, self-evaluations are subjective, com-

bining aspects of physical and emotional well-being and satisfaction with life. Self-perception of health status refers not just to feelings of pain and discomfort, but also to the psychological and social consequences of having a health problem [11].

The quality of life of people living with HIV/AIDS has improved considerably with the advent of antiretroviral therapy (ART), especially highly active antiretroviral therapy (HAART), a treatment which is expected to reduce viral load to less than 50 copies/mL of blood in patients virgin to treatment [12,13].

The universal access to ART in Brazil since 1996 has resulted in an increase of survival and a significant reduction in hospitalizations [14,15]. Chequer et al. [16] estimated a median survival of 5.1 months for adult patients from 1982 to 1989, while Marins et al. [15] estimated a median survival of 18 months for adult patients diagnosed in 1995, and 58 months for patients diagnosed in 1996, with ART being significantly associated with the survival increase. In a study carried out among patients diagnosed between 1998 and 1999 in the South and Southeast regions in Brazil, the median survival rate could not be estimated in 9 years of observation as 59% of patients have survived for 108 months [17].

According to data provided by the Department of STD, AIDS and Viral Hepatitis Monitoring System (http://sistemas.aids.gov.br/monitoraids), the rate of hospitalizations per AIDS patients under ART reduced from 0.63 in 1998 to 0.13 in 2008. However, little is known about the quality of life of AIDS patients under ART, nor about changes in living and working conditions resulting from the disease.

In the year of 2008, the Department of STD, AIDS and Viral Hepatitis, with the financial support from the United States Agency for International Development (USAID), developed a health survey among patients under ART to analyze the health system responsiveness according to their needs and the quality of life of AIDS patients. In respect to quality of life, with the understanding that self-rated health is a measure that includes not just physical aspects but also well-being and life satisfaction [11], a module designed to evaluate self-perception of health in its various dimensions was included in the survey as one of the study topics. The aim of this study was to analyze the self-rated health and its association with sex, age, socioeconomic status and characteristics related to the treatment among AIDS patients receiving ART in Brazil.

Methodology

In 2008, a survey was performed in a probabilistically selected sample of people infected by HIV under ART, with the purpose of evaluating the quality of life and the performance of the health system from the user's perspective. The project was approved by the Ethics Committee of the Sergio Arouca National School of Public Health, Oswaldo Cruz Foundation (CAAE: 0142.0.031.031-07).

The sample size was calculated to estimate the proportion of patients under ART who consider their quality of life as moderate or good. In an Australian study, 35% of people living with HIV/AIDS under the age of 50 reported adverse health conditions [18]. Using this estimate as a base for calculating the sample size, considering a 95% confidence interval with a 3% bilateral margin of error, a minimum number of 971 subjects was obtained. As the sample was selected in two stages, a design effect of 1.3 was considered, and a final sample size of 1,260 patients was obtained.

The sampling was carried out in two selection stages. In the first stage, 42 antiretroviral drug dispensing units (ADDU) were selected, using a probability proportional to their size, according to the number of registered patients on lists provided by the Department of STD, AIDS and Viral Hepatitis. Given the study timeframe, only ADDU with at least 200 registered patients were considered eligible for selection. However, this eligibility criterion did not affect the selection of a representative sample, since eligible units comprehend 90.6% of registered patients.

In the second stage, 30 patients were randomly selected from each of the chosen ADDU during fieldwork, from the list of patients scheduled in the study period.

The patients answered a modular questionnaire, which included the following modules: socio-demographic, residence and patient characteristics, self-rated health status, health system performance, and quality of life.

The modules addressing health system performance and self-rated health status were based on a World Health Organization (WHO) questionnaire used in the *World Health Survey*, applied in Brazil in 2003 (http://www.who.int/healthinfo/survey/en) [19,20], and the modules addressing quality of life were based on the WHO survey designed for this purpose (available at http://www.who.int/mental_health/media/en/557.pdf – original version – or http://www.ufrgs.br/psiq/whoqol_hiv_03.pdf – Portuguese version) [21,22]. The module on self-rated health status is the focus of the current study.

The interviews were performed face to face, whenever possible in a private room provided by the health unit. In the case of unavailability of a private room, the interviewers were advised to search for privacy, in a place away from the waiting room to conduct the interview. The average interview time was 20 minutes and handheld computers were used for the data collection.

Analysis of self-rated health was based on the following question: "*In general, how do you currently rate your health*?". The responses were ranked on a scale from 1 to 5 (1 = excellent; 2 = good; 3 = moderate; 4 = bad; 5 = very bad). Two additional questions were included with the same ranking scale: "*In general, how do you rate your ability to work?" and "In general, how do you rate your physical appearance*?".

Regarding the dimensions of health status, questions were included about the degree of difficulty involved in: carrying out day-to-day activities; locomotion; dressing and self-care; personal relationships; concentration or memory; sleeping well and disposition. Questions were also asked about the degree of pain or bodily discomfort experienced, and about feelings of sadness or depression and anxiety or worry. All of the questions referred to the previous 30 days, with a ranking scale from 1 to 5, from the better to the worst evaluation.

Analysis was conducted according to sex, age (18-49 vs. 50+ years old), socio-economic status, and clinical and treatment-related characteristics of patients. To examine inequalities by socio-economic status, three variables were considered: schooling, monthly income, and economic class, as defined by the Brazilian Economic Classification Criteria [23], which uses information about household goods and the head of household's level of schooling. Among the patient characteristics evaluated were: category of exposure; presence of symptoms related to AIDS; most recent CD4+ count; year of beginning ART; presence of side effects, including lipodystrophy.

For the multivariate analyses, logistic regression models were used, with the self-rated health as the response variable (1 = good or excellent; 0 = moderate, bad or very bad). Through stepwise procedures, the main predictors of good self-perception of health status were established.

SPSS version 15 (SPSS Inc., Chicago, USA) was used for statistical analysis, taking into account the sample design.

At last, the self-rated health indicators of AIDS patients were compared with those obtained for the Brazilian population by the *World Health Survey* [19], considering common questions to both surveys.

Results

We analyzed 1,245 patients receiving ART at public health facilities throughout the country. Fifty-nine percent were male and 41% were female (Table 1). Age varied from 19 to 72 years, with mean and median values of 41 years. Distribution by age group was equal for both sexes, with 79% between 15 and 49 years and 21% age 50 or over. Among patients 50 years old or over, 68.5% started ART prior to 2003.

The results by educational level showed that: 44% did not complete fundamental school (3% are illiterate); 20% had completed primary school; 28% had completed secondary school; and 8% had college degree. The proportion of patients who have completed at least primary education was 56%, with 60% among men and 50% among women, according to Table 1.

Regarding the marital status, 44.7% of the male patients have never been married and 34.7% are married or live with a partner. Among the women, 18.6% of them have never been married. Regarding skin color, 46.2% defined themselves as white, 39% as brown and 13% as black (Table 1).

Regarding the work status (Table 1), in total 58% of cases was not working at the time of the survey (55% among men and 62% among women). Among men, disease retirement (31.3%), disability (14.7%), and to receive disease benefits (24.6%) were the main reasons for not working. Among women, 28% were housewives, 15.4% were retired, 11% were disabled, and 15.4% received disease benefits (Table 1).

The distribution of patients by income group shows that 18% have no income (13.5% of the men and 24.1% of the women); almost 50% earn less than twice the minimum wage; and only 7% have monthly income greater than R$2,000.00 (Table 1).

According to the Brazilian Economic Classification Criteria [23], 53% of the patients belong to class "C" and 28% to classes "D" or "E".

The characteristics of the patients by sex are presented in Table 2. Almost 30% of the patients started ART between 2000 and 2003 and 19% began treatment in the past two years (2007-2008). Sixty-five patients (6%) started treatment before 1996, prior to the onset of universal anti-retrovirus distribution. Most patients (88%) were infected through sexual contact and among men, 47% via heterosexual contact, and 38% via homosexual contact. About 56% present symptoms of AIDS, with a slightly higher proportion amongst the men, although the difference was not statistically significant. Among patients who responded to the question about most recent CD4+ counts,

Table 1

Socio-demographic characteristics of patients receiving antiretroviral therapy (ART) by sex. Brazil, 2008

	Sex				Total	
	Male		Female			
	n	%	n	%	n	%
Age group (years)						
18-49	578	79.2	406	78.8	984	79.0
50+	152	20.8	109	21.2	261	21.0
Skin color						
White	349	48.4	219	43.0	568	46.2
Black	87	12.1	83	16.3	170	13.8
Brown	281	39.0	199	39.1	480	39.0
Other	4	0.6	8	1.6	12	1.0
Educational level						
Incomplete fundamental school	290	39.7	258	50.1	548	44.0
Fundamental school or higher	440	60.3	257	49.9	697	56.0
Work status						
Currently working	328	44.9	196	38.1	524	42.1
Retired due to disease/disability	284	38.9	133	25.8	417	33.5
Housewife/Family caring	-	-	90	17.5	90	7.2
Does not work for other reason	118	16.2	96	18.6	214	17.2
Monthly income						
No income	99	13.7	124	24.4	223	18.1
< R$ 760.00	323	44.7	302	59.4	625	50.8
≥ R$ 760.00 and < R$ 2,000.00	234	32.4	70	13.8	304	24.7
R$ 2,000.00 or more	67	9.3	12	2.4	79	6.4
Economic class *						
A or B	175	24.0	72	14.0	247	19.8
C	377	51.6	278	54.0	655	52.6
D or E	178	24.4	165	32.0	343	27.6
Total (% in row)	730	58.6	515	41.4	1,245	100.0

* Brazilian Economic Classification Criteria [23].

the proportion of women with counts of less than 200 (12%) was significantly smaller than that of the men (21%). More than 60% of the patients reported that they had some kind of side effect or adverse reaction to one of their antiretroviral medications, and 22% reported having lipodystrophy. Among those patients with lipodystrophy, 16% had received methacrylate implants (data not presented).

Data regarding different aspects of the self-rated health are presented in Table 3. Regarding the health status, 65% of patients evaluated their health status as excellent or good. Work capacity was better for women, although they felt worse about their physical appearance. An intense or very intense degree of difficulty in following treatment was reported by only 7.5% of patients (9% for females and 6% for males).

Among other evaluated health status dimensions, 13% reported an intense or very intense degree of difficulty in performing routine activities. A similar situation was found regarding the degree of difficulty for locomotion (12%), personal relationships (12%) and the degree of difficulty associated to concentration/memory (10%). A remarkably high proportion of the women reported intense or extreme pain or discomfort (33%), sadness or depression (33%), and worry or anxiety (47%). Among the men, these proportions were also quite high, 21%, 23%, and 34%, respectively (Table 3).

Table 4 shows the proportions of patients with excellent or good self-rated health according to the patients' characteristics, as well as the significance levels for the associations of these variables with self-rated health. All the analyzed social-demographic characteristics, except sex and age were individually associated to the health status. The variables used to measure the socioeconomic status (education, income and

Table 2

Clinical and treatment-related characteristics of patients receiving antiretroviral therapy (ART) by sex. Brazil, 2008

	Sex				Total	
	Male		Female			
	n	%	n	%	n	%
ART starting year						
< 1996	43	6.3	22	4.6	65	5.6
1996-1999	148	21.7	102	21.3	250	21.5
2000-2003	196	28.8	144	30.0	340	29.3
2004-2006	162	23.8	125	26.0	287	24.7
2007 +	132	19.4	87	18.1	219	18.9
Last count of CD4+						
< 200 cells/mm3	80	21.3	29	12.4	109	17.9
200-349 cells/mm3	73	19.4	41	17.6	114	18.7
350 cells/mm3 or more	223	59.3	163	70.0	386	63.4
Exposure category						
MSM	254	38.2	0	0.0	254	22.1
Heterosexual	314	47.2	445	92.3	759	66.2
IDU	53	8.0	7	1.5	60	5.2
Blood	20	3.0	17	3.5	37	3.2
Other	24	3.6	13	2.7	37	3.2
Side/Adverse effects						
No	291	41.4	160	32.3	451	37.6
Yes, excluding lipodystrophy	262	37.3	226	45.6	488	40.7
Yes, including lipodystrophy	150	21.3	110	22.2	260	21.7
Presence of symptoms						
Yes	422	59.4	266	52.0	688	56.3
No	288	40.6	246	48.0	534	43.7

IDU: injecting drug users; MSM: men who have sex with men.

economic class) were strongly associated with health status, as higher the SES the better the self-evaluation of health status.

Regarding patient characteristics, low CD4+ counts, the occurrence of AIDS-related symptoms, reporting of side or adverse effects were associated with a poor self-rated health (Table 4).

Results of multivariate logistic regression models to investigate which of the variables were mostly associated to excellent or good self-rated health are presented in Table 5. Regarding the variables remaining in the stepwise model, "having completed fundamental school" (OR = 1.70) and "belonging to economic classes A or B" (OR = 2.36) were positively associated with better evaluation of the health status. Moreover, "having been retired due to illness, unable to work or receiving disease benefits" (OR = 0.46), as well as "having reported effect and/or adverse effects" (OR = 0.57 and OR = 0.32 respectively, with and without lipodystrophy), "occurrence of AIDS symptoms" (OR = 0.58) and "having started treatment after 2007" (OR = 0.61) were associated with a poor evaluation of the health status.

Discussion

Results of the *World Health Survey*, a population-based household survey carried out in Brazil in 2003, showed that 53% of the Brazilian population considered their health as good or excellent, varying from 47% among women to 60% among men [24]. In the current study, using the exact same question as was used in the *World Health Survey* for self-rated health, this proportion was 65% (64% among women and 66% among men), that is, better than the evaluation of the general population, mainly among women. This result is surprising, considering that, according to *World Health Survey*-2003 data only 27% of persons with chronic or long-standing illness consider their health as good or excellent [25].

One possible explanation for this finding lies in the improved quality of life of patients with

Table 3

Distribution of self-rated health and domains according to sex. Brazil, 2008.

	Sex						Total		
	Male (n = 730)			Female (n = 515)					
	Excellent/ Good	Moderate	Bad/Very bad	Excellent/ Good	Moderate	Bad/ Very bad	Excellent/ Good	Moderate	Bad/Very bad
Health	66.4	26.4	7.1	63.9	26.0	10.1	65.4	26.3	8.4
Work capacity	50.4	22.3	27.3	56.3	21.6	22.1	52.9	22.0	25.1
Physical appearance	62.2	24.8	13.0	58.1	23.3	18.6	60.5	24.2	15.3
	None/ Slight	Moderate	Intense/ Very intense	None/ Slight	Moderate	Intense/ Very intense	Non/light	Moderate	Intense/ Very intense
Difficulty in carrying out day-to-day activities	65.5	23.0	11.5	66.2	17.5	16.3	65.8	20.7	13.5
Difficulty in adhering to treatment	83.6	10.3	6.2	79.8	10.9	9.3	82.0	10.5	7.5
Difficulty in locomotion	77.9	11.9	10.1	74.2	11.1	14.8	76.4	11.6	12.0
Difficulty in physical activity *	74.2	14.3	11.6	71.7	14.9	13.4	73.3	14.5	12.3
Difficulty with self-care	92.5	6.2	1.4	88.9	8.3	2.7	91.0	7.1	1.9
Difficulty relating to others and community	81.4	8.9	9.7	77.3	6.8	15.9	79.7	8.0	12.3
Difficulty with concentration/ memory	72.9	18.6	8.5	64.5	22.9	12.6	69.4	20.4	10.2
Feelings of pain/discomfort	61.2	17.4	21.4	48.5	18.4	33.0	56.0	17.8	26.2
Problems with sleeping	62.6	13.8	23.6	56.9	14.6	28.5	60.2	14.1	25.6
Tiredness on waking and throughout the day	61.1	19.7	19.2	56.7	17.9	25.4	59.3	19.0	21.8
Feelings of sadness and depression	59.2	18.2	22.6	47.0	20.0	33.0	54.1	19.0	26.9
Feelings of worry and anxiety	43.4	23.0	33.6	34.2	19.2	46.6	39.6	21.4	39.0

* 281 male patients and 246 female patients did not perform physical activities and were not included in this analysis, being analyzed 449 and 269 patients respectively.

AIDS and the expectation of a long lifespan after the advent of HAART [15]. This hypothesis is corroborated by the patient characteristics examined here, such as the positive association of good self-rated health with the absence of HIV-related symptoms and treatment-related side-effects. It was also seen that the lower a patient's CD4+ count, the worse their perception about their health. In addition, among patients aged 50 and over, 68.5% began treatment before 2003, showing the life-prolonging effect of the treatment.

For people diagnosed with HIV/AIDS, given the high lethality of the disease at the onset of the epidemic, it is important to consider the great impact on life perspectives at the moment of the diagnosis. After beginning treatment, however, improved immune function and well-being restore a sense of hope for the future, as well as a positive perception about their health. This can be perceived in patients' responses such as: "*Compared with what I've been through, now I'm great*" or, "*I thought I was going to die*"; "*Now I've discovered that there's nothing wrong with me*", "*I just have to take my medicines*". Besides, the presence of the word "currently" in the general question on self-rated health may have contributed to the patients' comparison with their health at the time of diagnosis, and to review the various physical and psychological problems they have encountered since their diagnosis until the moment of the interview.

Another important factor to explain the high proportion of patients with good health self-evaluation has to do with the limitations of this type of study. The questionnaire was applied to

Table 4

Proportion and number of patients who rated their health as excellent or good according to patients' characteristics. Brazil, 2008

	Self-evaluation of health as excellent or good		
	n	%	p-value
Sex			
Male	730	66.4	0.512
Female	515	63.9	
Age (years)			
18-49	984	65.4	0.937
50+	261	65.1	
Skin color			
White	568	67.1	0.002 *
Black	170	74.1	
Brown	480	61.3	
Other	12	50.0	
Educational level			
Incomplete fundamental school	548	56.8	< 0.001
Fundamental school or higher	697	72.2	
Work situation			
Currently working	524	76.1	< 0.001
Retired due to disease/disability	417	53.5	
Housewife/Family caring	90	67.8	
Does not work for other reason	214	61.2	
Monthly income			
No income	223	56.5	< 0.001
< R$ 760.00	625	62.4	
≥ R$ 760.00 and < R$ 2,000.00	304	73.7	
R$ 2,000.00 or more	79	82.3	
Economic class **			
A or B	247	77.3	< 0.001
C	655	67.3	
D or E	343	53.1	
ART starting year			
< 2007	942	66.0	0.079
2007 +	219	59.8	
Last count of CD4+			
< 200 cells/mm^3	109	45.9	< 0.001
200-349 cells/mm^3	114	58.8	
350 cells/mm^3 or more	386	73.8	
Exposure category			
MSM	254	72.8	0.045
Heterosexual	759	64.0	
IDU	60	55.0	
Blood	37	64.9	
Other	37	75.7	
Side/Adverse effects			
No	451	74.7	< 0.001
Yes, excluding lipodystrophy	488	64.3	
Yes, including lipodystrophy	260	52.7	

(continues)

Table 4 (continued)

	Self-evaluation of health as excellent or good		
	n	%	p-value
Presence of symptoms			
Yes	688	58.7	< 0.001
No	534	74.9	
Total	1,245	65.4	

ART: antiretroviral therapy; IDU: injecting drug; MSM: men who have sex with men.

* The category "other" was not included in the statistical test;

** Brazilian Economic Classification Criteria [23].

Table 5

Logistic regression model results using excellent or good self-rated health as response variable by sex. Brazil, 2008

	OR	95%CI	p-value
Sex			
Male	1.09	0.78-1.53	0.605
Female	1.00	-	-
Educational level			
Incomplete fundamental school	1.00	-	-
Fundamental school or higher	1.70	1.36-2.12	0.000
Work situation			
Currently working	1.00	-	-
Retired due to disease/disability aid	0.46	0.31-0.67	0.000
Housewife/Family caring	1.24	0.67-2.29	0.486
Does not work for other reason	0.73	0.45-1.19	0.204
Economic class *			
A or B	2.36	1.45-3.84	0.001
C	1.40	0.97-2.01	0.071
D or E	1.00	-	-
Side/adverse effects			
No	1.00	-	-
Yes, excluding lipodystrophy	0.57	0.42-0.77	0.001
Yes, including lipodystrophy	0.32	0.23-0.45	0.000
Presence of symptoms			
Yes	0.58	0.46-0.73	0.000
No	1.00	-	-
ART starting year			
< 2007	1.00	-	-
2007 +	0.61	0.46-0.81	0.001

ART: antiretroviral therapy; 95%CI: 95% confidence interval.

* Brazilian Economic Classification Criteria [23].

patients who show up at health services to pick up their antiviral medications, in other words, "healthy" patients. Patients who were hospitalized, bed-ridden or not able to pick up their medications were excluded. In addition, deceased patients and those who were not under ART were equally excluded.

Still, despite the positive health self-evaluation on the part of patients on ART, intense feelings of sadness and depression or worry and

anxiety were present in much greater proportions than in the general population [26]. The proportions of intense or extreme pain or discomfort, difficulty sleeping or no disposition during the day were also much higher than those in the general population [27]. These results indicate that, despite most patients' positive health self-evaluation, many of them still have not overcome the psychological traumas caused by diagnosis with HIV/AIDS. Among female patients, almost half claimed to feel intense or extreme worry or anxiety.

Inequalities in health self-perception by sex have been well documented in the international literature [28]. As in the current study, women in general rank their health more poorly than do men. The main explanation for this lies in gender roles, in which women express pain and discomfort more easily than men [29,30].

Despite having worse health self-evaluations, especially for animus status related aspects, women had better immune function, measured by CD4+ counts, than did their male counterparts. Possibly due to widespread testing for HIV during prenatal care, women are diagnosed earlier than men and reach health services in better condition than men [31].

The question about most recent CD4+ counts, however, was problematic. Initially, the interview was supposed to be performed after the medical appointment. However, the pilot study showed that the patients preferred taking part in the study during the waiting time for the medical appointment. We then decided that the interview should be conducted at any moment, either before or after the appointment. This meant that many of the patients did not yet have their test results, and only 49% were able to respond to this question. As a result, this information was excluded from the multivariate logistic analysis.

No distinction was made in this study between side effects and adverse drug reactions. With the exception of lipodystrophy, which was considered separately, any side effects or adverse drug reactions mentioned by patients were considered. These side effects were mentioned by great part of the sample and showed a negative association with good self-rated health, especially among women. According to a study carried out in Belo Horizonte, Brazil, side effects/adverse reactions were one of the main difficulties in adhere to treatment [32].

The study results indicate a higher level of education among AIDS patients when compared to the Brazilian population as a whole. Nonetheless, despite better education, the pattern of wealth distribution is similar. According to the *National Household Sample Survey* (PNAD-2006) [34], about 67% of the Brazilian population over 18 years old has a monthly income of less than twice the minimum wage (including all income sources). Among AIDS patients, the proportion was similar, 69%. However, when we compare the level of schooling of those receiving less than 2 minimum wages, in the general population, 30% have less than 3 years of schooling, while among patients in the same income group only 18% have less than 3 years of schooling. Results also show that the proportion of male patients who are unemployed (55%) is much higher than among the general male population (21%) [33].

When socioeconomic status is analyzed together with self-rated health, there is a clear association between socioeconomic variables and health status perception. As with the Brazilian population as a whole [24,34,35], self-rated health among AIDS patients is poorer as the worse is the socioeconomic status. These findings are also consistent with studies carried out in developed countries [5,36,37].

Among the indicators of socioeconomic status, educational level has probably been the most utilized one, since it is a stable attribute in adult life, different from the occupational and income status that may vary over time [36], as in the case of AIDS patients. In fact, schooling was an important predictor of a positive health self-evaluation. Economic class, measured by household goods and education level of the head of household, was another major contributor to a satisfactory health self-perception. As discussed by Martikainen et al. [38], this indicator of wealthy reflects not just material needs, such as the ability to acquire good nutrition or housing, but is also a marker of social well-being. Being currently working was another important predictor of good self-rated health among patients.

In sum, a poor perception of one's own health can be seen as the result of suffering caused by the disease in interaction with social, cultural, psychological and environmental factors that modify the way in which a person is affected by the experienced problem. In the case of AIDS patients, although material well-being and educational level are relevant dimensions, ART seems to have a huge influence on individuals' self-perceptions about health status. This indicates the need to invest even more to reduce the negative effects of treatment, and to continue to improve treatment adherence and quality of life of those infected with HIV. Problems related to animus status, involving worry and anxiety about the future are still barriers that must be overcome to improve quality of life of people living with HIV/AIDS.

Resumo

Em 2008, um inquérito foi conduzido em uma amostra selecionada probabilisticamente de 1.245 pessoas infectadas pelo HIV em terapia antirretroviral no Brasil. No presente trabalho, foram investigadas associações da autoavaliação da saúde com sexo, faixa etária, nível socioeconômico e características do paciente. Para as análises multivariadas foram utilizados modelos de regressão logística, tendo como variável resposta a autoavaliação boa ou excelente. Os resultados mostram que 65% autoavaliaram sua saúde como excelente ou boa, 81% relataram nenhuma ou pouca dificuldade em seguir o tratamento, porém, 34% dos homens e 47% das mulheres relataram grau intenso ou muito intenso de sentimento de preocupação ou ansiedade. Nível de escolaridade, situação de trabalho, ausência de efeitos colaterais e ausência de sintomas foram os principais fatores associados à boa percepção à saúde. Problemas no estado de ânimo, envolvendo preocupação e ansiedade com o futuro, não foram ainda superados e são barreiras a serem enfrentadas para a melhoria da qualidade de vida dos pacientes de AIDS.

Terapia Anti-Retroviral de Alta Atividade; HIV; Auto-Avaliação; Afeto

Contributors

P. R. B. Souza Junior collaborated in all stages of development, both the survey and the article. C. L. Szwarcwald contributed in the development of the survey, data analysis, and discussion. E. A. Castilho collaborated in the contextualization, interpretation of results and discussion, and in the selection of bibliographic references.

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