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Profile and adherence to antiretroviral therapy of people living with HIV/AIDS

Perfil e adesão à terapia antirretroviral de pessoas vivendo com HIV/AIDS

Perfil y adhesión a la terapia antirretroviral de personas que viven con el VIH/SIDA

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Cross-sectional and descriptive study, carried out in an infectious and parasitic disease outpatient clinic of a university hospital, located in a medium-sized city in the interior of the state of Minas Gerais, Brazil, carried out in the first semester of 2017. It aimed to identify the profile and levels adherence to antiretroviral drugs for people living with HIV/AIDS. The following were used: Characterization questionnaire elaborated for the research; The Depression, Anxiety and Stress Scale - Short Version; The Questionnaire for the Evaluation of Adhesion to Antirretroviral Treatment - Version in Portuguese; and Nutritional and complementary data questionnaire. Descriptive statistical analysis was performed with frequency distribution and percentage of categorical variables and measures of central tendency and dispersion of continuous variables. 190 people were interviewed, of which 51.6% were men, an average of 44.9 years (±12.0), with low income (64.7%) and low educational level (57.8%). Most had been infected for 10 years or more (54.2%) and had an undetectable viral load (68.9%). According to the pharmacy record and the treatment adherence assessment questionnaire, 11.1% and 69.0% of respondents were considered adherents, respectively. High non-adherence rates were found, reinforcing the importance of services to monitor adherence to antiretroviral drugs for early detection of non-adherence.
Descriptors: HIV; Acquired Immunodeficiency Syndrome; Health profile; Medication adherence; Antiretroviral therapy, Highly active.

Estudo transversal e descritivo, realizado em um ambulatório de doenças infecciosas e parasitárias de um hospital universitário, localizado em uma cidade de médio porte do interior do estado de Minas Gerais, realizado no primeiro semestre de 2017, com objetivo de identificar o perfil e os níveis de adesão aos antirretrovirais das pessoas vivendo com HIV/Aids. Utilizou-se: Questionário de caracterização elaborado para a pesquisa; Escala de Depressão, Ansiedade e *Stress* - Versão Abreviada; *Cuestionario para la Evaluación de la Adhesión al Tratamiento Antirretroviral* - Versão em Português; e Questionário de dados nutricionais e complementares. Realizou-se análise estatística-descritiva com distribuição de frequência e porcentagem de variáveis categóricas e medidas de tendência central e de dispersão de variáveis contínuas. Foram entrevistadas 190 pessoas, das quais 51,6% eram homens, média de 44,9 anos (±12,0), com baixa renda (64,7%) e baixa escolaridade (57,8%). A maioria tinha 10 anos ou mais de infecção (54,2%) e apresentava carga viral indetectável (68,9%). Conforme o registro na farmácia e o questionário de avaliação de adesão ao tratamento, foram considerados aderentes 11,1% e 69,0% dos entrevistados, respectivamente. Foram encontradas taxas altas de não-adesão, reforçando a importância dos serviços monitorarem a adesão aos antirretrovirais para a detecção precoce da não-adesão.
Descritores: HIV; Síndrome de Imunodeficiência Adquirida; Perfil de saúde; Adesão à medicação; Terapia antirretroviral de alta atividade.

Estudio transversal y descriptivo, realizado en un ambulatorio de enfermedades infecciosas y parasitarias de un hospital universitario, ubicado en una ciudad de tamaño medio del interior del estado de Minas Gerais, Brasil, llevado a cabo en el primer semestre de 2017, con el objetivo de identificar el perfil y los niveles de adhesión a los medicamentos antirretrovirales de las personas que viven con el VIH/SIDA. Se utilizó: Cuestionario de caracterización preparado para la investigación; Escala de Depresión, Ansiedad y Estrés - Versión Abreviada; Cuestionario para la Evaluación de la Adhesión al Tratamiento Antirretroviral - Versión en portugués; y Cuestionario de datos nutricionales y complementarios. Se realizó un análisis estadístico descriptivo con distribución de frecuencias y porcentajes de las variables categóricas y medidas de tendencia central y dispersión de las variables continuas. Se entrevistó a 190 personas, de las cuales el 51,6% eran hombres, con una media de 44,9 años (±12,0), con bajos ingresos (64,7%) y baja educación (57,8%). La mayoría tenía 10 años o más de infección (54,2%) y tenía una carga viral indetectable (68,9%). Según el registro en la farmacia y el cuestionario para evaluar la adhesión al tratamiento, el 11,1% y el 69,0% de los encuestados se consideraron adherentes, respectivamente. Se encontraron altas tasas de no adhesión, lo que refuerza la importancia de que los servicios supervisen la adhesión a los medicamentos antirretrovirales para la detección temprana de la no adhesión.
Descriptores: VIH; Síndrome de Inmunodeficiencia Adquirida; Perfil de salud; Cumplimiento de la medicación; Terapia antirretroviral altamente activa.

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INTRODUCTION

In 2018, approximately 37.9 million people were living with HIV all over the world, and 770,000 HIV-related deaths were recorded[1]. In Brazil, from the beginning of the infection until June 2019, 966,058 cases of AIDS were registered, 65.6% in men. There is a growing advance in the infection in young men, aged 15 to 24 years, which worries health professionals[2].

With the introduction of Antiretroviral Therapy (ART), there was an important reduction in morbidity and mortality related to HIV/AIDS, making the infection a chronic disease with possibilities for control[3,4]. But the benefits of ART are not achieved without treatment adherence[3,5]. Treatment adherence involves taking a medication in the quantity and frequency prescribed[6].

There are multiple factors associated with adherence to ART, mainly: sociodemographic characteristics, psychosocial factors, treatment characteristics, characteristics of HIV/AIDS infection, relationship with the health service and social support[7,8]. There is no consensus to define good and bad adherence in people living with HIV/AIDS (PLHA). The first studies on the subject indicated that at least 95% of treatment adherence would be necessary to maintain an undetectable HIV viral load. However, more recent works using potent ART regimens have shown the ability to maintain viral suppression with adherence below 95%[9-11].

Among the ways to assess adherence, there are: indirect measures (self-report, electronic medication monitoring, pill counts and ART dispensing records) and direct measures (detection of antiretrovirals or their metabolizers in the blood and viral load counts in the blood). But there is no gold standard measure for adherence to ART, which makes comparison difficult[5,7,11]. There is only a recommendation that adherence be assessed by two or more methods combined for monitoring[5,7].

Non-adherence to ART implies a risk to individual health and is associated with a potential increase in HIV transmission[6]. Cases of non-adherence to ART are found in all countries, and variations in adherence rates occur both between nations and within different regions of the same country, representing a major challenge for public health[4,7]. In Brazil, the identified adherence rates vary between 11.8% and 75%[12-14], but the form of assessment varies between studies. Research on adherence in Brazil used a questionnaire measuring adherence[12,14], self-report[13] or registration of ART withdrawal at pharmacies[5,15,16], making it difficult to establish whether the variation in the measures observed derives from the real difference in adherence or from a methodological bias. Furthermore, there are still many regions for which there is no adherence data, especially in the interior of the country[4,14].

This study aimed to identify the profile and levels of adherence to Antiretroviral Therapy in people living with HIV/AIDS.

METHODS

Cross-sectional and descriptive study, carried out in an infectious and parasitic disease outpatient clinic of a university hospital, located in a medium-sized city in the interior of the state of Minas Gerais.

For sample size calculation, viral load records available at the hospital were used, which allowed us to estimate that approximately 1200 PLWHA received care at this health service[17]. The sample size was determined according to statistical criteria for known populations[18]. A prevalence of non-adherence of 25%[14], 95% of confidence, 5% of error and sample replacement in case of refusal was considered.

Initially, it was checked in electronic medical records which service users met the research inclusion criteria and the names were crossed with the appointment schedule for consultation on the collection days. Eligible people were invited individually with explanations about the study. Then, the questionnaires were applied through interviews, including anthropometric measurements and checking the data in the medical records and records of

antiretroviral drugs withdrawal at pharmacies. Data were collected in the first semester of 2017.

The following instruments were used:

a. Structured questionnaire to characterize the participants, containing multiple choice questions about: 1. Demographic and socioeconomic aspects; 2. Clinical aspects; 3. Use of antiretrovirals; 4. Living habits; 5. Social support; 6. Monitoring and characteristics of the health service and 7. Knowledge about HIV/AIDS and ART. Data on age, CD4 count, plasma viral load, presence of comorbidities, HIV/AIDS-associated infections and use of other medications were obtained from the medical record,

b. Depression, Anxiety and Stress Scale-DASS-21 validated for Brazil[19]. This scale consists of 21 items that assess and indicate the presence of symptoms of depression, anxiety and stress.

c. Questionnaire for the assessment of adherence to antiretroviral treatment (CEAT-HIV) - version 2020-22, validated for Brazil[22]. The questionnaire has 17 items that assess adherence to ART and establishes the following degree of adherence: low/insufficient, good/adequate or strict[20-21],

d. Nutritional assessment: Weight (W) and height (H) were measured on an electronic scale with a vertical rod attached, according to standardized methods. The calculation of the Body Mass Index (BMI) was made from the conversion of W and H measurements into the formula BMI (kg/m^2) = W/H^2, with the classification of nutritional status made according to the recommended cutoff points by the World Health Organization[23].

e. Record of antiretroviral drug withdrawals. Annotation of antiretroviral drug withdrawal records at the hospital's Drug Distribution Unit in SICLOM's online records.

ART schemes, prescribed doses and dosages, number of pills withdrawed, and monthly withdrawal dates of antiretroviral drugs in the six months prior to the interview were recorded. The criteria by Gomes *et al*[16] were used to define adherence, characterizing the withdrawal of ART into two groups: 1. Regular: when there was no irregularity in the time of withdrawing; and 2. Irregular: when the withdrawal time was greater than 34 days than expected.

Descriptive statistical analysis was performed with frequency distribution and percentage of categorical variables and measures of central tendency (mean and median) and dispersion (standard deviation, minimum and maximum values) of continuous variables. For each adherence measure adopted, the proportion of people who met adherence and non-adherence criteria was estimated.

This research followed all ethical provisions for research with human beings, being approved by the Research Ethics Committee (Opinion No. 1.774,871). The Informed Consent Form (FICF) was read along with the participants and everyone signed it before data collection.

RESULTS

The study included 190 PLWHA, aged 18 years or older and prescribed ART for a minimum period of six months. Pregnant women and incarcerated individuals were excluded. The majority (77.9%) lived in the city where the hospital is located, male (51.6%), with a mean age of 44.9 years (+12.0), ranging from 20 to 72 years, but the majority (55.2%) were aged between 30 and 49 years (Table 1).

There was a predominance of people self-declared white (47.3%), with incomplete or complete elementary education (60.5%), single (50%) and heterosexuals (76.8%). Most lived with someone (77.4%), declared a family income of up to 2 minimum wages (66.2%) and had an individual income (77.9%). For 53.6%, the income came from retirement, pension for death, aid for illness and/or continued benefit. Most respondents had a religious belief (87.9%), the most cited being catholic (37.4%) and evangelical (25.3%).

Table 1. Sociodemographic characteristics evaluated. Uberaba, Minas Gerais, 2017.

Characteristics	No.	%
City of residence		
City where the hospital is located	148	77.9
Other cities	42	22.1
Gender		
Male	98	51.6
Female	92	48.4
Age		
18 to 24 years	9	4.7
25 to 29 years	8	4.2
30 to 49 years	105	55.2
50 to 60 years	38	20.0
60 years or more	30	15.8
Color		
White	89	47.3
Brown	51	27.1
Black	44	23.4
Yellow (Asian)	4	2.1
Educational level		
None	5	2.6
Incomplete Elementary School	73	38.4
Complete Elementary School	37	19.5
Incomplete High School	18	9.5
Complete High School	37	19.5
Incomplete Higher Education	8	4.2
Complete Higher Education	11	5.8
Marital status		
Single	95	50.0
Married/Civil union	56	29.4
Widowed	19	10.0
Divorced/Separated	20	10.5
Sexual orientation		
Heterosexual	146	76.8
Homosexual	33	17.4
Bisexual	3	1.6
Has no interest in sex	8	4.2
Lives with another person		
Yes	147	77.4
No	40	21.1
Institution	3	1.6
Family income		
No income	3	1.6
Up to R$ 468.5	4	2.1
From R$468.5 to R$1874	117	62.5
From R$1874 to R$3748	55	29.4
From R$3748 to R$9370	8	4.2
Source of individual income		
Yes	148	77.9
No	42	22.1
Types of source of individual income		
Retirement/Pension for death	61	32.1
Aid for illness/BPC	41	21.6
Formal employment	24	12.7
Informal employment	28	14.7
None of the above	36	18.9
Religious beliefs		
Yes	167	87.9
No	23	12.1
Religion		
Catholic	71	37.4
Evangelical	48	25.3
Kardecist spiritist	28	14.7
Umbandist/Candomblé	15	7.9
Has no religion, but believes in God	10	5.3
None of the above	18	9.5

Most respondents (54.2%) have HIV/AIDS infection for 10 years or more, 44.4% had used ART for more than 10 years (Table 2), had morbidities (84.1%) and infections associated with HIV/AIDS (69.3%), and 58.5% reported having already experienced one or more hospitalizations for complications related to AIDS. Symptoms attributed to AIDS were reported by 69.5% of the subjects, the main ones being: memory impairment and seizures (33.7%), fatigue/tiredness (32.1%) and headache (31.1%). Most respondents (67.9%) mentioned not having a psychiatric diagnosis.

In terms of nutritional status, almost half of the participants were overweight (48.5%). The mean BMI was 25.0 kg/m^2 (SD+5.1), varying between 13.8 and 50.3 kg/m^2. Of the interviewees, 40.0% reported having observed changes in the body related to HIV/AIDS, with emphasis on an increase (16.9%) or loss (14.3%) in body fat (Table 2).

The CD4 average was 595 cells/mm^3 (SD + 352.2), with a minimum of 15 cells/mm^3 and a maximum of 2067 cells/mm^3. The most recent CD4 test was performed in March 2017, while the most distant in August 2014. There was a predominance of CD4 count above 501 cells/mm^3 (58.4%). Regarding viral load, 68.9% of participants had an undetectable viral load (<40 copies), with the most recent viral load test date being March 2017 and the furthest from September 2015 (Table 2) .

25 different combinations of ART were found. The most used regimen was Efavirenz, Tenofovir and Lamivudine, combined in a single pill (41.1%). For 44.7% of participants, antiretroviral drugs were recognized by name and 33.7% recognized them by bottle. The majority (63.7%) declared they had already stopped taking their medication, the main reasons being forgetfulness (27.9%) and lack of medication at home (14.2%) (Table 2).

Regarding lifestyle habits (Table 3), most participants said they did not practice physical activities (63.7%), eat three to four meals/day (59.4%), sleep six or more hours a day (80.0%) and woke up rested (57.9%). In addition, 42.6% considered the food to be adequate. They indicated not having used illicit drugs in the six months prior to the interview (94.7%), not having consumed alcoholic beverages (52.1%), not smoking (71.6%) and using condoms (69.4%). A large portion also indicated having a single sexual partner (40.0%) (Table 2).

Most of those evaluated (90.5%) had communicated their HIV seropositivity to someone else. Almost half of respondents reported receiving social support in concrete situations, facilitating the performance of their treatment (44.7%) and 46.8% claimed to have received emotional and motivational support (Table 3).

Regarding emotional conditions, the presence of depressive symptoms was considered normal for 58.9%, anxiety for 57.9% and stress for 60.0% of participants. However, symptoms were identified as severe or very severe in 18.9% of respondents for depression, 19.4% for anxiety and 23.6% for stress (Table 3).

In terms of use and perception of the health service, 67.9% reported having sought the service through referral. The majority reported never having experienced difficulty in making a medical appointment (83.2%), never having faced difficulty in withdrawing medication from the pharmacy (86.8%),being always treated with respect and cordiality (86.8%), being satisfied or very satisfied with the service (95.2%) and classified the general infrastructure conditions of the service as good or excellent (88.8%). They reported having received guidance on HIV/AIDS (79.5%) and having understood the information received most times or always (66.3%). Regarding guidance on ART, 80.3% indicated having received them and 71.0% having understood them. As for guidance on food, 63.3% declared they had not received any (Table 4). In terms of knowledge about HIV/AIDS and ART, all participants responded that ART should be taken every day. There was a lower frequency of correct answers for the statements "*You can catch HIV from an insect bite*" (65.3%) and "*HIV is curable*" (78.9%) (Table 4).

Table 2. Clinical characteristics and use of Antiretroviral Therapy. Uberaba, Minas Gerais, 2017.

Characteristics	n.o	%
Clinical aspects		
Time of diagnosis		
Up to 1 year	7	8.9
2 to 4 years	8	4.7
5 to 9 years	2	2.1
10 to 14 years	7	9.5
15 to 20 years	6	8.9
Over 20 years	0	5.8
Time under ART		
6 months to 1 year	3	2.3
1year and 1 month to 2 years	4	7.5
2 years and 1 month to 5 years	7	4.4
5 years and 1 month to 10 years	0	1.4
Over 10 years	3	4.4
Presence of morbidity		
Yes	59	4.1
No	0	5.9
Presence of infections associated with HIV/Aids		
Yes	32	9.8
No	7	0.2
Need for hospitalization due to infections associated with HIV/AIDS (user report)		
Yes	10	8.5
No	8	1.5
Presence of infection-related symptoms in the last month		
Yes	32	9.5
No	8	0.5
Main symptoms (more than one answer was possible)		
Neurocognitive changes (lack of memory, forgetfulness, seizures)	4	3.7
Fatigue or tiredness	1	2.1
Headache	9	1.1
Psychiatric diagnosis		
Yes	1	2.1
No	29	7.9
BMI		
Underweight	4	7.4
Normal weight	4	4.2
Pre-obesity	8	5.8
Level I obesity	5	7.9
Level II obesity	7	3.7
Level III obesity	2	1.1
Changes observed in the body related to HIV or ART		
No	14	0.0
Yes	6	0.0
Body changes		
None	15	0.8
Body fat increase	2	6.9
Body fat loss	7	4.3
Others	5	7.9
Viral load		
Undetectable	31	8.9
Less than 1000 copies	4	7.9
Over than 1000 copies	5	3.2
CD4		
Less than 200	7	14.2
Between 201 and 350	5	3.2
Between 351 and 500	7	4.2
Over 501	11	8.4
Use of antiretroviral therapy		
Antiretroviral regimen/Amount of pills per day		
Efavirenz +Lamivudina+tenofovir **1 pill**	8	1.1
Atazanavir+Ritonavir+Tenofovir+Lamivudina **3pills**	40	1.1
Darunavir+Raltegravir+Ritonavir+Tenofovir+Lamivudina **7pills**	6	3.2
Others		4.7
Do you know the medications (more than one answer possible)		
Knows by name	5	4.7
Knows by bottle	4	3.7
Knows by color	0	6.3
Have you ever stopped taking medication		
Yes	21	3.7
No	9	6.3
Main reason (more than one answer possible)		
Forgetfulness	3	7.9
Lack of medication at home	7	4.2
Alcohol use	3	6.8

Table 3. Characteristics about lifestyle habits, social support and emotional conditions. Uberaba, Minas Gerais, 2017.

Characteristics	No.	%
Life habits		
Practices physical activities		
Yes	121	63.7
No	69	36.3
Number of meals a day		
2 meals or less	25	13.2
3 and 4 meals	113	59.4
5 or more	52	27.4
Self-evaluation of food		
Very poor/very inadequate	9	4.7
Poor/inadequate	14	7.4
Average	62	32.6
Good/adequate	81	42.6
Excellent/very adequate	24	12.6
Hours of sleep a night		
3 hours or less	7	3.7
Between 4 and 5	30	15.9
6 or more	152	80.4
Wakes up feeling rested		
Never	22	11.6
Sometimes	33	17.5
Half of the time	24	12.7
Most times/always	110	58.2
Current sexual relationships		
Never had sex	9	4.8
Has not had sex for the last six months	58	30.7
Has sex sometimes, with the same partner	26	13.8
Has sex sometimes, with different partners	11	5.8
Always has sex, with the same partner	76	40.2
Always has sex, with different partners	9	4.8
Use of condoms		
Never	34	18.3
Sometimes/half of the time	16	8.6
Many times	7	3.8
Always	129	69.4
Active smoker		
No	136	71.6
Yes	54	28.4
Drank alcohol in the last six months		
No	99	52.1
Yes	91	47.9
Used illicit drugs in the last six months		
No	180	94.7
Yes	10	5.3
Social support		
Told someone about the diagnosis		
No	18	9.5
Yes	172	90.5
Has received social support in concrete situations		
Never	74	39.4
Sometimes/half of the time	12	6.4
Most times	18	9.6
Always	84	44.7
Has received motivational and emotional support		
Never	55	29.3
Sometimes/half of the time	21	11.2
Most times	24	12.8
Always	88	46.8
Emotional conditions		
Depression		
Normal	112	58.9
Mild and moderate	42	22.1
Severe and very severe	36	18.9
Anxiety		
Normal	110	57.9
Mild and moderate	43	22.6
Severe and very severe	37	19.4
Stress		
Normal	114	60.0
Mild and moderate	31	16.3
Severe and very severe	45	23.6

Table 4. Perception of the health service and knowledge about HIV/AIDS and ART. Uberaba, Minas Gerais, 2017.

Characteristics	No.	%
Reason for choosing the health service (more than one answer was possible)		
Have been forwarded	129	67.9
Service quality	43	22.6
Be the reference on the city	33	17.4
Report of difficulty in making appointments		
Never	158	83.2
Sometimes	22	11.6
Half of the times	7	3.7
Many times/always	3	1.6
Report of difficulty in withdrawing ART at UDM		
Never	165	86.8
Sometimes	18	9.5
Half of the times	3	1.6
Many times/always	4	2.1
Treated with respect and cordiality		
Never	1	0.5
Sometimes	4	2.1
Half of the times	2	1.1
Many times	18	9.5
Always	164	86.8
Classification of general infrastructure conditions (user perception)		
Very poor/poor	4	2.1
Average	17	9.0
Good	115	60.8
Great	53	28.0
Report of satisfaction with the service provided		
Terrible	3	1.6
Unsatisfied	6	3.2
Satisfied	93	48.9
Very satisfied	88	46.3
Received guidance on food		
No	126	66.3
Yes	64	33.7
Received guidance on HIV/Aids		
No	39	20.5
Yes	151	79.5
Understood guidelines		
I did not understand	4	2.1
Sometimes	13	6.8
Half the times	11	5.8
Most times	47	24.7
Always	79	41.6
Did not receive guidance	36	18.9
Received guidance on ART		
No	37	19.7
Yes	151	80.3
Understood guidelines		
I did not understand	6	3.2
Sometimes	9	4.8
Half the times	6	3.2
Most times	34	18.1
Always	101	53.7
Did not receive guidance	32	17.0
Knowledge about HIV/AIDS (correct answers for each item)		
HIV destroys the body's defense	156	82.1
HIV is curable	150	78.9
HIV can be caught by contaminated blood	187	98.4
HIV can be caught through sexual intercourse	187	98.4
HIV can be caught by hugging	185	97.4
HIV can be caught by insect bites	124	65.3
AIDS has treatment	170	89.5
AIDS is caused by the HIV virus	169	88.9
Knowledge about ART (correct answers for each item)		
ART reduces HIV/AIDS infections	179	94.2
ART improves the body's resistance	179	94.2
ART helps prevent some serious illnesses	165	86.8
ART must be taken every day	190	100.0
ART, if taken differently than expected or if one stops taking it, can harm one's health	183	96.3
ART must be taken for life	185	97.4

In the measures of adherence (Table 5), adherence was observed ranging from 11.1%, considering the record of pharmacy withdrawal, to 69.0%, when measured by the CEAT-HIV. Of the interviewees, only 9.4% proved to be adherent by the combination of the two measures.

Table 5. Adherence to antiretroviral treatment according to each adherence measure.Uberaba, Minas Gerais, 2017.

Measures of adherence	No.	%
CEAT-VIH		
Insufficient adherence	59	31.0
Strict and adequate adherence	131	69.0
Pharmacy registration		
Regular withdrawal	21	11.1
Irregular withdrawal	169	88.9

DISCUSSION

The profile of PLWHA observed in this study is similar to that identified in other studies in Brazil[2,6], with a predominance of male PLWHA, white and brown, aged between 30 and 49 years, with low education, low income and heterosexuals, but the percentage of women was close to that of men. In Brazil, since the mid-1990s, an increasing impact of the infection has been observed in poorer populations, with low levels of education and/or difficulty in realizing their vulnerability to HIV. Thus, it is important to pay attention to the profile of PLWHA when defining public policies and HIV prevention campaigns. Focus should be on providing guidance on HIV combination prevention, including pre and post-exposure prophylaxis and distribution of lubricants and condoms for the most vulnerable populations[1].

Regarding the use of condoms, one of the sources of protection from the virus, this study revealed a pattern of use similar to that described in another study[5], which detected that only 66.1% of PLWHA used condoms. The low adherence to condoms in all sexual relations shows an important intervention point for HIV prevention campaigns[24] and the need for health services to raise awareness in PLWHA that this is a necessary self-care measure.

A relevant number of elderly participants (37.7%) was observed, which, in the case of PLWHA, representing people aged 50 or over[6]. The increase in the HIV/AIDS detection rate in men over 50 years and in men and women over 60 years in Brazil has been identified since 2016[2]. Several factors can contribute to the growing number of elderly people with HIV/AIDS, among them the aging of the population, the advance of medicine, which enabled the elderly to become more sexually active, among other aspects. Added to this is the increase in life expectancy of PLWHA as a result of advances in ART[3]. This situation signals the need to develop specific prevention strategies for this group[25].

The mean BMI found showed that 48.5% were overweight and 7.4% were underweight. With the advent of ART, important bodily changes were observed in PLWHA, with a reduction in severe malnutrition, although malnutrition is still present in this population group, increased lipodystrophy by HIV, metabolic syndromes and overweight PLWHA[26]. But the latter can also be associated with the general increase in the weight of Brazilians.

Most had normal levels of symptoms of depression, anxiety and stress. One of the possible explanations for this result is the participants' diagnosis time. Negative psychological changes may appear at the time of diagnosis of seropositivity, as part of the initial process of adaptation to the disease, and can be transitory, as well as lead to more severe clinical conditions[27]. As the mean time of infection in the present sample was 10 years, most of these service users may have already experienced such symptoms, but have adapted to their new reality. Another factor that may have contributed to the good emotional state of this group was the perception of social support. Most participants reported having told someone about their HIV status and receiving help. Social support and affective support for PLWHA are important for this population, and are related to better rates of adherence to ART[28].

A significant portion showed worrying levels of emotional changes, especially depression and anxiety. A study on factors associated with adherence also showed the negative impact of emotional symptoms on adherence to ART, indicating the need to monitor the presence of depression, excessive anxiety and stress[8,27,28].

There were high levels of satisfaction with the service. The good relationship between professionals and users of the health service represents another factor associated with good adherence to ART[7]. But, despite the good perception of the service, many participants in this study showed lack of knowledge about important information about HIV/AIDS, believing in the cure for AIDS (20.1%) and that they could contract AIDS through the insect bites (65.3 %). As the lack of information can represent a risk for adherence and for the spread of the HIV virus, the service can take advantage of the good relationship established with users to raise other doubts or misinformation and think about awareness campaigns aimed at the specific demands of its users. Knowledge about the infection and its treatment by PLWHA are highlighted as well as related to better adherence to antiretroviral drugs[7].

Almost half of the survey participants were using the so-called "3 in 1" ART regimen, consisting of a combined pill of Efavirenz, Tenfovir and Lamivudine. In 2017, the Unified Health System started to provide an ART regimen considered more effective than the 3 in 1, consisting of a Dolutegravir tablet and a combined tablet of Tenofovir and Lamivudine[6], and it is likely that the number of PLWHA using this regimen will surpass the others over the next few years.

Adherence was measured using two different measures, and showed different results. When considering the withdrawal of medication at the pharmacy, there was only 11.1% adherence, similar to that observed in other studies[5,16], which measured adherence in the same way and found values between 11.8% and 25.7%, respectively. The hospital studied has a tolerance of five days for medication withdrawal, that is, after 25 days of withdrawal, it is possible to withdraw the medication again. Thus, a person who withdrew the medication, at first, with an interval of 25 days and, later, with an interval of 35 days, would be classified in this study as a person with irregular withdrawal, even though they adhere to ART and have not affected their treatment.

When adherence is assessed using the CEAT-HIV, the percentage of PLWHA with adequate adherence rises to 69%. This index was higher than that observed in other Brazilian studies that used the same questionnaire, in which adherence rates of 48.7%[29] and 11.5%[30] were found, but were lower than those observed in another study that verified 75.0% adherence among its respondents[12].

When considering, however, the combination of measures to define adherence, only 9.4% of respondents showed adherence. This is a result similar to that found in another study[10], which observed 13.3% adherence by the combination of the self-report measure and the dispensing of ART at the pharmacy. This discrepancy makes it difficult to understand the real situation of adherence to ART and shows the need to create a standardized measure for health services. Low adherence can contribute to the development of viral resistance to the initial regimens and explain the increase in the use of rescue therapy[14].

CONCLUSION

Antiretroviral Therapy has enabled an important reduction in the morbidity and mortality rates related to HIV/AIDS in Brazil and in the world, making the infection a chronic disease with possibilities for control. Adherence to ART and its associated factors are many and need to be evidenced by the scientific literature to understand the aspects involved in this dynamic of adherence or non-adherence to treatment.

Studies like this are relevant, as Brazil presents a multiplicity of sociocultural contexts that can influence aspects of adherence and the profile of people living with HIV/AIDS. Thus, this study allowed us to assess the profile of PLWHA and adherence to ART in a city in the interior of Minas Gerais.

The profile showed that people with low income and low education, especially males, are more vulnerable to acquiring the infection. The assessment of adherence showed great variability, between low and fair, evidencing the influence of the adopted measure. This influence explains the need to invest in a gold standard measure to investigate adherence, and that services include this assessment in their periodic routine.

The potential of this study lies in the presentation of the results of an investigation carried out in a university hospital that serves 27 municipalities in the interior of Minas Gerais, which indicate the need for practical actions that seek to guide people in relation to HIV/AIDS. Although the data cannot be compared and generalized to the entire national context, they reflect a reality that needs to be considered and observed, especially for the implementation of public policies aimed at promoting care, preventing new infections and helping to adhere to the treatment.

Among the weaknesses found, the context in which the research was developed can be indicated, as although the service serves a significant macro-region, it is still inserted in a region that differs from others in the national scenario in economic, cultural, educational terms, and others.

The results found provide a picture of the relevance of the service offered to the population, highlighting the importance of actions in the field of public health, the relevance of the SUS as a provider of services and medicines to care for people living with HIV/AIDS. The need for health education actions is pointed out, since guidance can be an important mechanism for reducing the number of cases.

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