People living with HIV/AIDS in southwest Goiás: sociodemographic, clinical and laboratory characterization in the year 2018

Pessoas vivendo com HIV/Aids no sudoeste goiano: caracterização sociodemográfica, clínica e laboratorial no ano de 2018

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ABSTRACT: *Introduction*: The number of people living with HIV (PLHIV) in Brazil is significant, and not restricted to large centers, which makes it necessary to understand the clinical and epidemiological characteristics of each region so that public policies can be established in a realistic, practical, and applicable way to the peculiarities of this disease. *Objective*: To characterize the sociodemographic, clinical, and laboratory profile of PLHIV who had their first consultation at an outpatient clinic in the city of Jataí, Goiás, in 2018. *Methods*: Sociodemographic, clinical, and laboratory data were collected from the medical records of a sample of 80 PLHIV attended at an outpatient clinic in Jataí, Goiás, in 2018. Data were analyzed using descriptive and inferential statistics. *Results*: There was a predominance of men (71.3%), aged 16-35 years (61.3%), single (68.8%), heterosexual (43.8%), employed (70.0%), and the route of exposure to HIV was through sexual intercourse (97.5%). Herpes zoster stood out as an opportunistic infection (27.8%), and syphilis (76.9%) as well as other infections and anxiety disorder (30.0%) as comorbidities. Men, compared to women, were positively associated with the diagnosis of other infections (p=0.0250) and with altered values for aspartate aminotransferase (p=0.0410). On the other hand, the PLHIV attended due to diagnosis, in relation to those due to transfer/abandonment, showed a positive association with the presence of detectable viral load (p=0.0001) and adequate abdominal circumference (p=0.0304). *Conclusion*: In 2018, consultations for newly diagnosed patients predominated, as well as for adults, men, single people, heterosexuals, and employed individuals. Herpes zoster and syphilis were the most common infections, the route of exposure to HIV was sexual intercourse, and men showed alterations in aspartate aminotransferase and a greater presence of other infections. Detectable viral load and adequate abdominal circumference were more present in newly diagnosed PLHIV.

Key-words: HIV; Health profile; Outpatients.

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RESUMO: *Introdução*: É significativo o número de pessoas vivendo com HIV (PVHIV) no Brasil, não se restringindo aos grandes centros, o que torna necessário entender as características clinicoepidemiológicas de cada região para que políticas públicas sejam estabelecidas de forma realística, prática e aplicável às suas peculiaridades. *Objetivo*: Caracterizar o perfil sociodemográfico, clínico e laboratorial das PVHIV que tiveram seu primeiro atendimento em um ambulatório do município de Jataí, Goiás, no ano de 2018. *Método*: Coletaram-se dados sociodemográficos, clínicos e laboratoriais de uma amostra de 80 prontuários de PVHIV atendidas em um ambulatório de Jataí, Goiás, no ano de 2018. Os dados foram analisados por estatística descritiva e inferencial. *Resultados*: Houve predomínio de homens (71,3%), idade de 16-35 anos (61,3%), solteiros (68,8%), heterossexuais (43,8%), com vínculo empregatício (70,0%) e o meio de exposição ao HIV foi pela relação sexual (97,5%). A herpes zoster se destacou como infecção oportunista (27,8%), a sífilis (76,9%)

como outras infecções e o transtorno de ansiedade (30,0%) como comorbidade. Os homens, em relação às mulheres, associaram-se positivamente com o diagnóstico de outras infecções (p=0,0250) e com valores alterados para aspartato aminotransferase (p=0,0410). Já as PVHIV com atendimento por diagnóstico, em relação as por transferência/abandono, apresentaram associação positiva com a presença de carga viral detectável (p=0,0001) e circunferência abdominal adequada (p=0,0304). *Conclusão*: Em 2018, o atendimento para o recém diagnóstico predominou, bem como de adultos, homens, solteiros, heterossexuais e com vínculo empregatício. A herpes zoster e a sífilis foram as infecções mais presentes, o tipo de exposição ao HIV foi a relação sexual e os homens apresentaram alteração para a aspartato aminotransferase e maior presença de outras infecções. A carga viral detectável e a circunferência abdominal adequada estiveram mais presentes nos recém diagnosticados.

Palavras-chave: HIV; Perfil de saúde; Pacientes ambulatoriais.

INTRODUCTION

According to the UNAIDS[1], by the end of 2020, 37.7 million people were registered as living with the human immunodeficiency virus (PLHIV), of which 680,000 died worldwide. In Brazil, 381,793 cases of PLHIV were registered (from 2007 to 2021) and for the acquired immunodeficiency syndrome (AIDS), 1,045,355 cases were recorded in the period from 1980 to 2021. The regions with the highest frequencies of PLHIV were the Southeast (51%) and South (20%). The state of Goiás, from 2007 to 2021, registered 11,893 cases of PLHIV, having the third highest detection rate (13.1 per 100,000 inhabitants) in the Midwest region[2]. Within the state of Goiás, the Central region was the most affected in 2018 (696 cases), with the capital, Goiânia, having the highest number of registered cases (633 cases)[3].

Advances in antiretroviral therapy (ART) have generated significant reductions in HIV-related mortality and the incidence of opportunistic infections[4]. However, severe immunosuppression at the time of diagnosis, characterized by a CD4+ T lymphocyte count (CD4+ TL) <200 cells/mm³, increases the risk of developing opportunistic infections, as well as the development of AIDS. Among the most frequent opportunistic infections are: pneumocystosis; neurotoxoplasmosis; tuberculosis; cryptococcal meningitis; and cytomegalovirus retinitis[5].

Early diagnosis and initiation of treatment reduces PLHIV morbidity and mortality, as well as disease transmission, and ensures more appropriate therapeutic options for the patient. Therefore, the time between diagnosis and initiation of treatment should be as short as possible[6]. Currently, the HIV diagnosis is often delayed, which significantly contributes to the decreased efficiency of HIV transmission prevention measures[7].

Thus, tracing the profile of PLHIV and monitoring the behavior of infections are important strategies for establishing measures to prevent and control the disease, even more so when the peculiarities of each Brazilian region are known. With this, the purpose of the present study is to characterize the sociodemographic, clinical, and laboratory profile of PLHIV who had their first appointment at an outpatient clinic in the municipality of Jataí, Goiás, in 2018.

METHODS

The study is descriptive, cross-sectional, and quantitative[8]. The research was carried out at the Testing and Counseling Center and Specialized Assistance Service (TCC/SAS), located in the municipality of Jataí, Goiás, Brazil. In the state of Goiás, the municipality of Jataí is part of the Southwest II region of the health department, with the TCC/SAS being a reference for serving nine other municipalities, in addition to Jataí. Data collection was carried out in 2019, however it was suspended in 2020 and 2021 due to the exceptional moment resulting from the COVID-19 pandemic. The medical records of all people admitted (by diagnosis/abandonment/transfer) to the TCC/SAS in Jataí were analyzed. Furthermore, as the collection started/was performed in 2019, the patients who began their follow-up at the TCC/SAS in 2018 were chosen to be characterized, as this was the closest time period available.

The study population consisted of 81 medical records of PLHIV, under care at the TCC/SAS of Jataí. The following inclusion criteria were respected: started (due to diagnosis) or restarted follow-up (due to transfer or abandonment) at the TCC/SAS in Jataí in 2018; having a diagnosis of HIV infection; the medical record was required to contain at least information on the date of diagnosis, date of birth, and sex. On the other hand, the following exclusion criteria were adopted: children under 15 years of age and medical records with compromised information (1 excluded). Thus, the sample consisted of 80 medical records of patients.

The present study was approved by the Research Ethics Committee of the Federal University of Goiás (Opinion: 3,380,955). In addition, it is emphasized that

all ethical aspects were respected for access and handling of medical records.

A spreadsheet was prepared in the Excel® program for data collection, containing sociodemographic (date of entry into the TCC/SAS, sex, age, skin color, marital status, sexual orientation, city of residence, education, alcoholism, smoking, and consumption of illicit drugs), clinical (date of diagnosis of HIV infection, type of care at the TCC/SAS, route of exposure to HIV, presence of infections, comorbidities, immunodeficiency status, details of ART - use, type of scheme, and adherence), and laboratory information (CD4+ TL count, viral load, glycemia, lipidogram, creatinine, hemoglobin, platelets, amylase, urea, aspartate aminotransferase – AST, and alanine aminotransferase – ALT).

Laboratory information was verified from the medical records, respecting a period of up to 4 months from the consultation. The reference value adopted for blood glucose (<100 mg/dL) was proposed by Sposito et al.[9]. For total cholesterol (<190 mg/dL), LDL-c (<130 mg/dL), triglyceride (<150 mg/dL), non-HDL-c (<160 mg/dL), and HDL-c (men - <40 mg/dL; women - <50 mg/dL), the cut-off values of Faludi et al. were considered[10]. In addition, the cut-off values of Segatto et al.[11] were adopted for CD4+ TL (< or ≥200 cells/mm³; altered/adequate) and viral load (≥50 copies – detectable or <50 copies – undetectable).

Values considered altered for hemoglobin were <13 g/dL for men and <12 g/dL for women[12], and normal platelet count[13] was from 140 to 360 thousand cells/mm³. For creatinine, values from 0.6 to 1.3 mg/dL were considered adequate[14] and the reference values adopted by the Laboratory of the State Hospital of Jataí, the place where the patients underwent the exams, were utilized for amylase (25 to 125 U/L), AST (11 to 39 U/L), ALT (11 to 45 U/L), and urea (15 to 40 U/L).

For the evaluation of renal function, we used the estimation of the glomerular filtration rate (GFR) through the *Chronic Kidney Disease Epidemiology Collaboration* equation[15]. The evaluation of renal function by GFR was considered altered when it presented values <60 ml/min/1.73m²,[16].

Finally, for classification as an immunodeficiency situation for AIDS, the PLHIV was required to present or have presented an CD4+ TL count <200 cells/mm³ or a history of opportunistic infection or cancer[17].

Data were organized and analyzed using descriptive statistics. In addition, the D'Agostino-Pearson normality test was applied, for subsequent adoption of the Student's t test for independent samples for comparisons of parametric data and the Mann-Whitney Test for comparisons of non-parametric data. Associations were performed using Fisher's Exact Test and, when significant, the possibility of occurrence of the event was verified using the Odds Ratio (odds ratio) and 95% confidence interval (95%CI). The tests were carried out with the support of the programs Graphpad Prism 7.0 and BioEstat 5.3, adopting a value of p<0.05.

RESULTS

Table 1 shows the distribution of sociodemographic and clinical variables of patients who had their first consultation at the TCC/SAS in Jataí in 2018. Of note, 78.8% of the sample started attendance due to the diagnosis and there was missing information only for marital status (1.3%; n=1), sexual orientation (23.8%; n=19), and education (48.8%; n= 39). The minimum age found was 16 years, the maximum was 69 years, and the mean age was 33.5±10.6 years.

Table 1. Distribution of patients according to sociodemographic and clinical variables

Variables	n/%	Variables	n/%
Age (years)		**Sex**	
16-25	22/27.5	Male	57/71.3
26-35	27/33.8	Female	23/28.7
36-45	21/26.3	**Skin color**	
46-55	6/7.5	White	39/48.8
56-65	3/3.8	Black	7/8.8
66-75	1/1.3	Brown	34/42.5
Marital status		**Schooling**	
Married	22/27.5	Complete elementary	1/1.3
Single	55/68.8	Incomplete elementary	13/16.3
Widowed	2/2.5	Complete secondary	15/18.8
Not informed	1/1.3	Incomplete secondary	3/3.8
Sexual choice		Complete higher	7/8.8
Bisexual	3/3.8	Incomplete higher	2/2.5
Heterosexual	35/43.8	Not informed	39/48.8
Homosexual	21/26.3	**Employed**	
Transsexual	2/2.5	Yes	56/70.0
Not informed	19/23.8	No	23/28.8
Residence		Retired	1/1.3
Aporé	1/1.3	**Type of service**	
Caiapônia	6/7.5	Started by diagnosis	63/78.8
Chapadão do Céu	1/1.3	Started by transfer	14/17.5
Doverlândia	1/1.3	Started by abandonment	3/3.7
Jataí	42/52.5	**Type of exposure**	
Mineiros	24/30.0	Accident with biological material	1/1.3
Santa Rita do Araguaia	4/5.0	Sexual intercourse	78/97.5
Serranópolis	1/1.3	Vertical transmission	1/1.3

Table 2 shows the distribution and association of sociodemographic and clinical variables with sex and type of attendance at the TCC/SAS.

The results showed 10 notifications of comorbidities, in six (7.5%) patients. In addition, 16 reports of opportunistic infections were registered, in 14 (17.5%) patients, and 26 reports of other infections, present in 22 (27.5%) patients. These notifications can be seen in Table 3.

Of the infections by *Toxoplasma gondii* (n=3), all were in the central nervous system (neurotoxoplasmosis). Considering tuberculosis, it was noted that 6.3% (n=1) of patients presented it in the lymph node form (extrapulmonary). Herpes zoster was the most frequent opportunistic infection (31.3%), appearing only in males and for patients at the time of diagnosis, as well as histoplasmosis.

Table 2. Association of sex and type of entry with sociodemographic and clinical characteristics

Variables	T n/%	M n/%	F n/%	p OR 95%CI	D n/%	I n/%	p OR 95%CI
Skin color							
White	39/48.8	30/52.6	9/39.1	0.3280	30/47.6	9/52.9	0.7876
Brown/Black	41/51.3	27/47.4	14/60.9		33/52.4	8/47.1	
Marital status							
Married	22/27.8	10/17.5	12/54.5	0.0019 5.6 1.9-16.6	15/24.2	7/41.2	0.2224
Single/Widowed	57/72.2	47/82.5	10/45.5		47/75.8	10/58.8	
Sexual choice							
Heterosexual	35/57.4	18/41.9	17/94.4	0.0001 23.6 2.8-93.9	25/51	10/83.3	0.0547
Homo/Bi/Trans	26/42.6	25/58.1	1/5.6		24/49	2/16.7	
Employed							
Yes	56/70	46/80.7	10/43.5	0.0023 5.4 1.8-15.6	48/76.2	8/47.1	0.0345 3.6 1.1-10.9
No	24/30	11/19.3	13/56.5		15/23.8	9/52.9	
Alcoholism							
Yes	28/35	22/38.6	6/26.1	0.3156	23/36.5	5/29.4	0.7758
No	52/65	35/61.4	17/73.9		40/63.5	12/70.6	
Smoking							
Yes	28/35	22/38.6	6/26.1	0.3156	24/38.1	4/23.5	0.3914
No	52/65	35/61.4	17/73.9		39/61.9	13/76.5	
Use of illicit drugs							
Yes	17/21.2	12/21.1	5/21.7	0.9995	15/23.8	2/11.8	0.3413
No	63/78.8	45/78.9	18/78.3		48/76.2	15/88.2	
Immunodeficiency status							
HIV	56/70.0	39/68.4	17/73.9	0.7890	45/60.0	11/57.9	0.4116
AIDS	24/30.0	18/31.6	6/26.1		20/40.0	8/42.1	
Type of service							
By diagnosis	63/78.8	50/87.7	13/56.5	0.0250 5.7 1.2-26.7	---	---	
Transfer/Abandoned	17/21.2	7/12.3	10/43.5		---	---	

Legend: T – total sample; M – male sex; F – female sex; D – patients attended by diagnosis; I – patients who started their care due to transfer or abandonment; Homo/Bi/Trans – homosexual/bisexual/transsexual; OR – Odds Ratio; 95% CI - 95% confidence interval.

Table 3. Distribution of patients according to the presence of opportunistic infections, other infections, and comorbidities

Variables	T n/%	M n/%	F n/%	D n/%	I n/%
Opportunistic Infections					
Oral candidiasis oral	1/6.3	0/0	1/33.3	1/6.7	0/0
Simple herpes	2/12.5	1/7.7	1/33.3	2/13.3	0/0
Zoster herpes	5/31.3	5/38.5	0/0	5/33.3	0/0
Histoplasmoses	3/18.8	3/23.1	0/0	3/20.0	0/0
Pneumocystosis	1/6.3	1/7.7	0/0	1/6.7	0/0
Neurotoxoplasmosis	3/18.8	2/15.4	1/33.3	3/20.0	0/0
Tuberculosis	1/6.3	1/7.7	0/0	0/0	1/100
Other Infections					
Intestinal amebiasis	1/3.8	1/4.5	0/0	1/4.8	0/0
Viral hepatitis B	3/11.5	1/4.5	2/50	1/4.8	2/40
Viral hepatitis C	1/3.8	0/0	1/25	0/0	1/20
Syphilis	20/76.9	19/86.4	1/25	18/85.7	2/40
Urethritis	1/3.8	1/4.5	0/0	1/4.8	0/0
Comorbidities					
Gouty arthritis	1/10	0/0	1/16.7	1/12.5	0/0
Cognitive deficit	1/10	1/25	0/0	1/12.5	0/0
Chronic kidney disease	1/10	0/0	1/16.7	1/12.5	0/0
Depression	1/10	0/0	1/16.7	0/0	1/50
Chronic obstructive pulmonary disease	1/10	1/25	0/0	1/12.5	0/0
Endometrioses	1/10	0/0	1/16.7	1/12.5	0/0
Fibromyalgia	1/10	0/0	1/16.7	0/0	1/50
Anxiety disorder	3/30	1/25	2/33.3	3/37.5	0/0

Legend: T – total sample; M – male sex; F – female sex; D – patients attended by diagnosis; I - patients who started their care due to transfer or abandonment.

As for syphilis, it was observed that 95% (n=19) of the patients had the disease in its latent form and 5% (n=1) in its secondary form, and this information was obtained at the time of diagnosis.

When sex was associated with the presence or absence of opportunistic infection or comorbidities, no significance was found (p>0.05). Considering the presence of other infections, males are 5.7 times more likely to be diagnosed than females (p=0.0250; 95%CI=1.2-26.7). The analysis of the association of the type of attendance (diagnosis or transfer/abandonment) with the presence or absence of opportunistic infection or other infection or comorbidity did not show significance (p>0.05).

Of the patients who had their care transferred (n=14), all were using ART and, according to the medical records, 50% (n=7) were compliant. Finally, it is noteworthy that the most commonly used ART schemes were: tenofovir (TDF) + lamivudine (3TC) + efavirenz (EFZ) (42.9%; n=6); TDF+3TC+ atazanavir / ritonavir (ATV/r) (28.6%; n=4); TDF+3TC + dolutegravir (DTG) (14.3%; n=2); zidovudine (AZT) +3TC+EFZ (7.1%; n=1); and 3TC+DTG+ darunavir/ritonavir (DRV/r) (7.1%; n=1).

Table 4 presents the mean values and the percentage of patients with appropriate reference values for laboratory markers, as well as their comparisons between sexes and types of care. In addition, it is noteworthy that men were associated with altered AST (p=0.0410; OR=8.16; 95%CI=0.97-68.74), as well as patients attended for diagnosis for detectable viral load (p=0.0001; OR=20.44; CI95%=4.22-98.88)

Table 4. Presentation of immunological, virological, hepatic, pancreatic, and renal function markers

Variables	T	M	F	D	I	P
CD4+ T lymphocytes						
Mean±SD	553.0± 628.7	461.8±366.9	740.3±955.2	572.1±690.5	486.8±351.3	[1]0.3482
Adequate (n/%)	43/74.1	27/69.2	16/84.2	33/73.3	10/76.9	[2]0.9853
Viral load						
Mean±SD	138,916.1±343,257.6	161,807.4±384,931.2	89,699.9±230,673.6	156,450±363,366	77,547±263,077	[1]0.0763
Adequate (n/%)	11/15.5	5/11.6	6/30	3/6.1	8/57.1	[2]0.0011
Creatinine						
Mean±SD	1.1±0.5	1.1±0.3	1.0±0.7	1.0±0.3	1.3±0.9	[1]<0.0001
Adequate (n/%)	53/89.8	35/92.1	18/94.7	44/93.6	9/90	[2]0.9547
Glomerular filtration rate						
Mean±SD	90.5±22.8	90.0±20.8	91.7±26.9	92.3±20.7	82.0±30.7	[1]0.4270
Adequate (n/%)	54/94.7	37/97.4	17/89.5	46/97.9	8/80	[2]0.1935
Amylase						
Mean±SD	89.7±35.2	89.7±31.8	89.8±43.4	88.2±31.8	98.0±52.5	[1]0.7920
Adequate (n/%)	46/86.8	32/86.5	14/87.5	40/88.9	6/75	[2]0.4758
Aspartate aminotransferase						
Mean±SD	38.2±47.1	43.9±56.1	26.4±13.3	38.8±51.1	34.8±16.2	[1]0.0376
Adequate (n/%)	42/76.4	25/67.6	17/94.4	35/76.1	7/77.8	[2]0.3476
Alanine aminotransferase						
Mean±SD	42.1±68.2	50.0±79.5	25.8±31.1	42.2±72.7	41.7±40.8	[1]0.0013
Adequate (n/%)	39/70.9	24/64.9	15/83.3	32/69.6	7/77.8	[2]0.5488
Urea						
Mean±SD	24.7±10.4	26.4±9.5	21.4±11.6	24.0±9.4	28.3±14.1	[1]0.0173
Adequate (n/%)	42/73.7	31/81.6	11/57.9	36/76.6	6/60	[2]0.2368

Legend: T – total sample; M – male sex; F – female sex; D – patients attended by diagnosis; I – patients who started their care due to transfer or abandonment; SD – standard deviation; [1] Comparison between the mean values of the sexes; [2] Comparison between the mean values of type of entry.

Finally, Table 5 presents the mean values and the percentage of patients with adequate reference values for the biochemical, hematological, and abdominal circumference markers, as well as their comparisons between sexes and between types of care. In addition, patients who received care due to transfer/abandonment were associated with altered waist circumference (p=0.0304; OR=3.98; 95%CI=1.28-12.37) and non-HDL-c (p=0.0330; OR=6.50; 95%CI =1.27-33.20), in relation to patients treated by diagnosis.

Table 5. Presentation of biochemical, hematological, and abdominal circumference markers

Variables	T	M	F	D	I	p
Abdominal circumference						
Mean±SD	92.6±13.1	92.5±12.5	92.9±14.8	90.8±12.5	99.1±13.8	[1]0.9157
Adequate (n/%)	54/71.1	41/77.4	13/56.5	46/78	8/47.1	[2]0.0334
Glucose						
Mean±SD	91.5±23.2	93.4±26.2	86.7±12.6	91.9±24.9	88.8±8.3	[1]0.4001
Adequate (n/%)	42/76.4	29/74.4	13/81.3	34/72.3	8/100	[2]0.9207
Total cholesterol						
Mean±SD	166.0±35.6	159.4±36.5	180.3±29.7	161.3±34.1	192.6±34.6	[1]0.0439
Adequate (n/%)	40/74.1	29/78.4	11/64.7	36/78.3	4/50	[2]0.0203
LDL-c						
Mean±SD	106.4±35.1	102.7±34.4	114.4±36.3	101.0±32.0	136.9±38.5	[1]0.2556
Adequate (n/%)	40/74.1	29/78.4	11/64.7	36/78.3	4/50	[2]0.0064
HDL-c						
Mean±SD	44.1±12.5	40.5±9.7	51.6±14.6	44.5±12.8	41.6±11.1	[1]0.0037
Adequate (n/%)	25/47.2	16/44.4	9/52.9	23/51.1	2/25	[2]0.6471
Non-HDL-c						
Mean±SD	123.1±34.2	120.5±35.2	128.7±32.3	118.2±32.3	151.1±32.6	[1]0.4204
Adequate (n/%)	43/81.1	29/80.6	14/82.4	39/86.7	4/50	[2]0.0108
Triglycerides						
Mean±SD	127.7±75.9	129.6±84.4	123.8±55.8	120.0±59.9	171.5±132.9	[1]0.7880
Adequate (n/%)	39/73.6	27/75	12/70.6	33/73.3	6/75	[2]0.3298
Hemoglobin						
Mean±SD	13.1±2.5	13.9±2.0	11.3±2.6	12.9±2.6	13.8±2.2	[1]0.0001
Adequate (n/%)	33/61.1	24/66.7	9/50	26/57.8	7/77.8	[2]0.2936
Platelets						
Mean±SD[3]	224.6±78.0	221.4±83.8	230.9±66.8	213.7±72.0	269.2±89.4	[1]0.5559
Adequate (n/%)	42/82.4	27/79.4	15/88.2	33/80.5	9/90	[2]0.1008

Legend: T – total sample; M – male sex; F – female sex; D – patients attended by diagnosis; I – patients who started their care due to transfer or abandonment; SD – standard deviation; [1]Comparison between the mean values of the sexes; [2] Comparison between mean values of type of entry; [3]Values multiplied by 1,000.

DISCUSSION

In this study, 80 PLHIV medical records were evaluated, with a higher prevalence of young, male, single, white-skinned, heterosexual adults, with high school education and sexual intercourse as the main route of HIV transmission. The most prevalent age group, in 2018, for HIV infection, both in Brazil and in Goiás, was between 25 and 39 years[2,21], as also observed in the current study.

This age group has greater exposure to risk factors, such as not using condoms during sexual intercourse and multiple sexual partners[22-24].

In 2018, Brazil had a distribution similar to that described in the current study, regarding sex[2], a population that has greater exposure to risk, whether due to increased consumption of alcohol and illicit drugs, fear of discovering diseases, low demand for health services for diagnosis; in addition to low adherence to treatment, and the lack

of use of protective factors, such as the use of condoms, which makes the population more susceptible to sexually transmitted infections[18]. The most prevalent marital status was single/widowed, as single people are less cautious, and prudent, and use condoms infrequently[19,20], which justifies the main route of contamination being sexual intercourse[2].

The predominant skin color was not the same as observed in other national and state studies[2,21], or in the study by Dias et al.[22] carried out in the same municipality as the present study. The data presented here are similar to national information regarding education, complete secondary education[2]. In addition, the same authors noted a higher frequency of patients with heterosexual sexual choice, as in the present study, and this choice was positively associated with the female sex, which is related to the women in the study reporting a predominately married marital status.

The present study demonstrated a positive association between employment and the male sex, as well as entry into the TCC/SAS by diagnosis with the presence of employment. In the study by Forest et al.[20], it was demonstrated that patients with an employment relationship present better adherence to treatment, which is of paramount importance for their adequate clinical evolution.

The use of illicit drugs is a situation that is harmful to health[22] and in this context, low consumption was observed among the patients. However, a third of the patients presented themselves as smokers and alcoholics. In view of this, the importance and attention to behavioral variables such as the use of these drugs are highlighted, which can favor sexual practice with multiple partners and, in this way, contribute to vulnerability to HIV infection[25].

Among the patients who had a notification of opportunistic infection (17.5%), it is possible to observe herpes zoster with the highest frequency, being present only in males, through the entry by diagnosis, followed by histoplasmosis and neurotoxoplasmosis. Dias et al.[22] carried out a study with PLHIV admitted to the outpatient clinic of the Hospital das Clínicas Doutor Serafim de Carvalho, in Jataí. The authors noted that 37.7% of the patients had an opportunistic infection, among which pneumocystosis (10.6%), neurotoxoplasmosis (9.3%), tuberculosis (5.2%), and histoplasmosis (1.3%) stand out, a profile similar to the present study, with the exception of pneumocystosis and tuberculosis among the most frequent and that only 1.8% of patients had herpes zoster as a complaint[22]. In the study of Chaves et al.[26], carried out in the interior of the state of Pará, herpes zoster (1.1%) is noted as the fourth most frequent infection, after tuberculosis, neurotoxoplasmosis, and oral candidiasis[26].

Among the other infections, syphilis draws attention, not only in the present study, but in others, as its presence is always highlighted[22,26]. In addition, its higher frequency in males is noted, which is possibly linked to unprotected sex and multiple partners[26]. Dias et al.[22], point out that mortality in HIV-infected patients, especially in men, is related to infections[22]. In this sense, the positive association of the male sex with the diagnosis of other infections is noteworthy in the present study.

Among the comorbidities present in the patients in this study, anxiety was the most frequent, especially in women. Oliveira et al.[27] report that negative feelings and fear due to stigma adversely affect quality of life, reducing social support, access to health services, and adherence to treatment. Leserman[28], explains that these depressive symptoms, such as stress and anxiety, cause a deterioration in the immune system and this increases the progression of the disease, so monitoring by health professionals, such as psychologists and psychiatrists, is of paramount importance for PLHIV[29].

Another important point to be observed in the daily lives of PLHIV is that ART significantly improves quality of life and health[4]. In Brazil, in general, it is recommended that treatment be started with the combination of two nucleoside analogue reverse transcriptase inhibitors (3TC; TDF) and an integrase inhibitor (DTG)[5]. In the present study, of the transfer patients (n=14) who did not start treatment at the TCC/SAS in Jataí, only 50% of them showed adherence and the most common scheme was TDF+3TC+EFZ. It is worth mentioning that there was a change in the initial therapeutic regimen in 2017, so that EFZ was replaced by DTG due to the advantages presented, that is, high potency, high genetic barrier and few adverse effects associated with its use. However, patients already on the TDF+3TC+EFZ therapeutic scheme are not required to switch to DTG compulsorily[30]. The scheme currently recommended by the Ministry of Health (3TC+TDF+DTG[5]) was found in 14.3% of the analyzed patients.

Transferred or abandonment patients had lower values for viral load, as they were already using ART[20], in relation to the newly diagnosed PLHIV, who may have discovered the infection later[1], which must also have contributed to the fact that almost a third of all patients presented the immunodeficiency situation for AIDS.

Although the use of ART constitutes a fundamental measure for the control of AIDS, its adverse effects are associated with the onset of cardiovascular diseases, due to metabolic alterations[31,32]. Altered abdominal circumference is a risk factor for cardiovascular diseases and dyslipidemia, in addition to other metabolic and biochemical alterations[33]. The patients analyzed in this study for transfer/abandonment had higher values of abdominal circumference and non-HDL-c, as well as being associated with altered values of cholesterolemia, in relation to the newly diagnosed individuals. Total cholesterol and LDL-c values were also higher in patients assisted by transfer/abandonment. These alterations may be due to HIV infection, lifestyle, smoking, a sedentary lifestyle, and inadequate diet, which can be aggravated by ART[34].

Observing the differences in laboratory tests performed on plasma, between sexes, men had higher values for creatinine, AST, ALT, urea, and hemoglobin and lower values for total cholesterol and HDL-c. Among the biochemical markers of liver analysis, the present study analyzed ALT and AST[35]. ART can contribute to the increase in the values of these enzymes, which signal a predisposition to liver disease[35-37]. In the current study, altered AST showed a positive association with male sex.

In general terms, the findings of the present study are relevant and contribute to the qualification of care provided at the local level. Knowing the profile of the population affected by HIV is fundamental for carrying out more targeted public policies, such as, for example, carrying out health education actions for the use of condoms and rapid test campaigns in geographically strategic locations. These factors, in addition to positively implying the prevention of HIV contamination, also contribute to comprehensive and equitable care for PLHIV.

The use of secondary data in medical records depends on the notification of clinical data and their quality, which represents a natural limitation, due to the general lack of control exercised when filling out the medical records. The most important limitations were for marital status, education, and sexual orientation, in addition to the restriction to the year 2018.

CONCLUSION

In 2018, at the Reference Center for PLHIV in the municipality of Jataí (Goiás), the most common consultations were for newly diagnosed, male, young adults, heterosexual, white, single, with complete secondary education, employed, infected through sexual intercourse, without a smoking, drinking, or illicit drug habit. Men were more susceptible to AST alterations and to the diagnosis of other infections. Patients with diagnostic care, in relation to transfer/abandonment, had a detectable viral load, normal abdominal circumference, and adequate non-HDL-c. Almost a third of the patients already had AIDS, and herpes zoster was the most common opportunistic infection and syphilis the most common other infection.

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