

## QUALITY OF LIFE AND FACTORS ASSOCIATED WITH PEOPLE LIVING WITH HIV/AIDS

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**ABSTRACT: Objective:** to evaluate the quality of life of people living with the human immunodeficiency virus/Acquired immunodeficiency syndrome. **Method:** a descriptive, quantitative, cross-sectional study with 150 individuals enrolled in a specialized care service in Pernambuco, Brazil, between February and August 2016. Data were analyzed using the Kolmogorov-Smirnov, Friedman, Mann-Whitney and Kruskal-Wallis tests. **Results:** gender and family income were more influential on the quality of life, with the spirituality domain having the greatest number of influential factors in the measurement of this variable. **Conclusion:** it was concluded that the quality of life of people living with the human immunodeficiency virus/Acquired immunodeficiency syndrome is impaired. Comprehending the quality of life as a form of perception of human existence, in the objective and subjective contexts, becomes essential, as living with the virus affects individuals in all areas of life.

**KEYWORDS:** Quality of life; human immunodeficiency virus; Acquired immunodeficiency syndrome; Health; Epidemiology.

### QUALIDADE DE VIDA E FATORES ASSOCIADOS EM PESSOAS VIVENDO COM HIV/AIDS

**RESUMO: Objetivo:** avaliar a qualidade de vida de pessoas vivendo com o vírus da imunodeficiência humana/Síndrome da imunodeficiência adquirida. **Método:** estudo transversal, descritivo, quantitativo, realizado com 150 indivíduos cadastrados em um serviço de assistência especializada em Pernambuco, Brasil, entre os meses de fevereiro e agosto de 2016. Para a análise dos dados, utilizou-se dos testes *Kolmogorov-Smirnov*, *Friedman*, *Mann-Whitney* e *Kruskal-Wallis*. **Resultados:** sexo e renda familiar foram mais influentes na alteração da qualidade de vida, e o domínio com maior quantitativo de fatores influenciáveis na mensuração desta variável foi a espiritualidade. **Conclusão:** conclui-se que a qualidade de vida de pessoas vivendo com o vírus da imunodeficiência humana/Síndrome da imunodeficiência adquirida mostra-se prejudicada. Compreender a qualidade de vida como forma de percepção da existência humana, nas esferas objetivas e subjetivas, torna-se essencial, visto que viver com o vírus afeta os indivíduos em todas as áreas da vida.

**DESCRIPTORES:** Qualidade de vida; vírus da imunodeficiência humana; Síndrome da imunodeficiência adquirida; Saúde; Epidemiologia.

### CALIDAD DE VIDA Y FACTORES ASOCIADOS EN PERSONAS QUE VIVEN CON HIV/SIDA

**RESUMEN: Objetivo:** evaluar la calidad de vida de personas con el virus de la inmunodeficiencia humana/Síndrome de la inmunodeficiencia adquirida. **Método:** estudio transversal, descriptivo, cuantitativo, realizado con 150 individuos registrados en un servicio de asistencia especializada en Pernambuco, Brasil, entre los meses de febrero y agosto de 2016. Para el análisis de los datos, se utilizaron los tests *Kolmogorov-Smirnov*, *Friedman*, *Mann-Whitney* y *Kruskal-Wallis*. **Resultados:** sexo y renta familiar fueron más influentes en la alteración de la calidad de vida, y el dominio con mayor cuantitativo de factores influenciables en la mensuración de esa variable fue la espiritualidad. **Conclusión:** se concluye que la calidad de vida de personas que viven con el virus de la inmunodeficiencia humana/Síndrome de la inmunodeficiencia adquirida se muestra agravioso. Comprender la calidad de vida como forma de percepción de la existencia humana, en las esferas objetivas y subjetivas, es esencial, ya que vivir con el virus afecta a los individuos en todas las áreas de la vida.

**DESCRIPTORES:** Calidad de vida; virus de la inmunodeficiencia humana; Síndrome de la inmunodeficiencia adquirida; Salud; Epidemiología.

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## ● INTRODUCTION

Human immunodeficiency virus (HIV) infection, which causes Acquired Immunodeficiency Syndrome (AIDS), is one of the greatest public health problems worldwide. The report published by the Joint United Nations Program on HIV/AIDS (UNAIDS) revealed that by the end of 2015 approximately 36.7 million people were living with HIV worldwide<sup>(1)</sup>. In Brazil, estimates indicate that from the beginning of the epidemic until 2016, more than 842,000 people were infected with the virus<sup>(2)</sup>.

Due to the epidemiological magnitude of HIV, in the 1990s the Brazilian federal government created a network of services integrated into the Brazilian Nation Health System (*Sistema Único de Saúde* - SUS) directed towards the diagnosis, counseling and treatment of this infection. In addition, the government, in close coordination with social movement networks and non-governmental organizations (NGOs), ensured the free distribution of the Antiretroviral Therapy (ART) necessary for treatment, with a significant increase in survival and quality of life (QoL) of people living with HIV/AIDS (PLHA)<sup>(3)</sup>.

In this context, measuring the QoL of PLHA is essential, since the discovery of the diagnosis of a transmissible disease, incurable to date, with a stigmatizing character and with biopsychosocial consequences, negatively affects the lives of these subjects<sup>(4)</sup>. Thus, the literature affirms that QoL has individual meanings, considered as a cultural construct that must constantly be discussed and transformed according to relevant factors, such as historical, socio-cultural, psychic and environmental aspects, as well as insertion in the world of work<sup>(5)</sup>.

Considering this dimension, it should be emphasized that QoL is used as a health assessment parameter, since it allows a broader understanding of the damage caused by the infection, through individualized attention directed toward the subjectivity of each subject, with it being capable of guaranteeing the perception of the health needs of people affected by the virus and of predicting the adequacy of the targeting of interdisciplinary support services<sup>(6)</sup>.

Although global trends show a decline in the HIV epidemic, there is still a significant portion of the population continuing to confront the prejudices due to diagnostic confirmation, therefore, measuring QoL is a key factor in determining the prognosis of these individuals<sup>(7)</sup>.

In view of the vulnerability imposed by the HIV infection, it is essential to have better knowledge about the QoL of PLHA, in order to contribute to the development of new discussions aimed at improving the strategies in the field of public policies aimed at integral health care for this group. It is also hoped to contribute to the identification of aspects that are more relevant to the maintenance of a satisfactory QoL.

In view of these considerations, the aim of this study was to evaluate the quality of life of people living with HIV/AIDS.

## ● METHOD

A descriptive cross-sectional study with a quantitative approach was performed at a Specialized HIV/AIDS Service (*Serviço de Assistência Especializada* - SAE) in the city of Recife, Pernambuco, Brazil.

For the eligibility criteria, PLHAs that were 18 years of age or older and included in the Logistic Control System for Antiretroviral Medicines (*Sistema de Controle Logístico de Medicamentos Antirretrovirais* - SICLOM) of the Ministry of Health were included. Individuals were excluded if they presented mental disorders/pathologies and/or cognitive decline, registered in medical records, that affected the perceptual, discernment or language ability and interfered, therefore, in the interviewee's communication and in the understanding of the issues related to the achievement of the interview.

For the sample selection, the use the non-probabilistic sampling technique was chosen, thus, 150 individuals composed the sample. Data collection occurred between February and August 2016, before or after the medical consultation, and was performed through individual interviews, in rooms of the service, which provided privacy for the interviewee and the interviewer.

To obtain data on the independent variables, a structured questionnaire composed of socioeconomic data (gender, age, schooling, marital status, income, occupation), health behavior (diagnosis and treatment time, physical activity and condom use) and information (the route of the HIV infection, clinical situation, presence of opportunistic infections and registration of ART adherence in medical records).

As the dependent variable was QoL, it was chosen to use the World Health Organization Quality of Life assessment instrument (WHOQOL-HIV-Bref), created and validated by the World Health Organization (WHO). This instrument is composed of 31 questions, divided into six domains: physical, psychological, social relations, environment, level of independence and spirituality/religion/personal beliefs. When responding, the individuals were asked to think about their QoL in the previous two weeks. The answers have a five-point Likert-type scale format. All scores linearly reflect QoL, score 1 being indicative of a low and negative perception of the QoL, and score 5 indicating a high and positive perception. Negative facets such as pain and discomfort, negative feelings, dependence on medication, death and dying are reversed, according to the WHO official document, already available in Portuguese<sup>(8)</sup>.

The data were stored in the Statistical Package for the Social Sciences (SPSS), version 18.0, program for performance of the statistical analysis. Descriptive analysis was used for socioeconomic, health behavior and clinical characterization, with the percentage frequencies calculated and the respective frequency distributions constructed. Mean and standard deviation were calculated for the WHOQOL-HIV-Bref domain scores. The normality of the score was verified through the Kolmogorov-Smirnov test. In cases in which the normality of the score was not indicated, the Friedman test was applied to verify the existence of differences in the score between the domains.

In order to identify the relationship of the QoL scores with the socioeconomic, health behavior and clinical profiles, Mann-Whitney tests were applied when the factors had two categories. The Kruskal-Wallis test was used when the factors presented more than two categories. A significance level of 0.05 was considered.

The study complied with Resolution No. 466/2012 of the National Health Council and was submitted to the Research Ethics Committee of the HUOC/PROCAPE Hospital Complex and approved under authorization No. 1.112.733.

## ● RESULTS

Table 1 shows the relative and absolute frequencies of the sociodemographic, clinical and health behavior profile of the patients evaluated. In the socioeconomic distribution of the interviewees, it was observed that 98 (65.3%) participants were female, and that the age extremes ranged from 18 to 69 years, with a mean of 37.21 years, a standard deviation of 10.77 years and a median of 37.5 years. It was verified that 90 (60%) of the respondents did not complete high school education, and 74 (49.3%) reported being married or living with their partners. Regarding family income, 92 (61.3%) participants survived with up to one minimum wage (MW), and 85 (56.7%) had no formal/informal employment contract.

Regarding the data related to clinical and health behavior variables, it was verified that the mean time since HIV discovery was 6.2 years, with a standard deviation of 16.51 years. The mean length of ART treatment was 5.5 years, with a standard deviation of 7.13 years.

Of the interviewees, 125 (83.3%) reported not practicing any type of physical activity, and 88 (58.7%) reported using condoms in their sexual relations. Of the PLHA, 146 (97.3%) stated that the route of HIV infection was through sexual intercourse.

Regarding clinical data, 115 (76.7%) never developed opportunistic infections, and 116 (77.2%) did not present a registration of non-adherence to ART in their medical records.

**Table 1** - Distribution of the relative and absolute frequencies of the sociodemographic, clinical and health behavior profile of the patients evaluated. Recife, PE, Brazil, 2016. (continues)

Evaluated factor	N	%	P-value <sup>1</sup>
<b>Gender</b>			
Female	98	65.3	<0.001
Male	52	34.7	
<b>Age group</b>			
18 to 28	35	23.3	<0.001
29 to 39	55	36.7	
40 to 60	59	39.3	
Over 60	1	0.7	
<b>Education</b>			
None	3	2	<0.001
Complete fundamental	21	14	
Incomplete fundamental	44	29.3	
Complete high school	43	28.7	
Incomplete high school	22	14.7	
Complete higher	5	3.3	
Incomplete higher	12	8	
<b>Marital status</b>			
Married/living with partner	74	49.3	<0.001
Single	65	43.3	
Widowed	4	2.7	
Separated or Divorced	7	4.7	
<b>Family income</b>			
Up to 1 minimum wage	92	61.3	<0.001
1 to 2 minimum wages	34	22.7	
2 to 3 minimum wages	13	8.7	
3 to 4 minimum wages	8	5.3	
4 or more minimum wages	3	2	
<b>Working</b>			
Yes	65	43.3	0.102
No	85	56.7	
<b>Time since HIV diagnosis</b>			
Less than 1 year	13	8.7	<0.001
From 1 to 5 years	72	48	
From 5 to 10 years	33	22	
More than 10 years	32	21.3	
<b>Length of ART Treatment</b>			
Less than 1 year	16	10.7	<0.001
From 1 to 5 years	76	51.1	
From 5 to 10 years	30	20.1	
More than 10 years	27	18.1	

Performs physical activity			
Yes	25	16.7	<0.001
No	125	83.3	
Uses condoms in sexual intercourse			
Yes	88	58.7	<0.001
No	20	13.3	
Sometimes	16	10.7	
Does not have sexual intercourse	26	17.3	
HIV contamination route			
Vertical	2	1.3	<0.001
Sexual intercourse	146	97.3	
Accident with sharps	1	0.7	
Others	1	0.7	
Previous opportunistic illness			
Yes	35	23.3	<0.001
No	115	76.7	
Lack of adherence to ART in the medical record			
Yes	34	22.8	<0.001
No	115	77.2	

<sup>1</sup>*p*-value of the chi-square test for proportion comparison (if *p*-value <0.05, the proportions differ significantly).

Table 2 presents the mean and standard deviation of the QoL scores according to the sociodemographic factors of the patients, according to the domains established by the WHOQOL-HIV-Bref instrument. In the physical domain, only the gender variable was significant for QoL, with the men having the highest mean ( $M=15.15$ ).

In relation to the psychological domain, the test was significant in terms of gender, age, family income and work. The highest means were expressed by the men ( $M=15.40$ ), age range of 40 to 60 years ( $M=14.79$ ), family income of three to four MW ( $M=17.10$ ) and formal/informal employment contract ( $M=14.88$ ).

Regarding independence, the work factor was significant for improving QoL, since the highest mean was presented by the group that reported performing paid activities ( $M=14.88$ ). Considering the social relations domain, the socioeconomic factors that presented significance were male gender ( $M=14.60$ ) and family income greater than three to four MW ( $M=17.12$ ).

For the environment domain, the factors that changed QoL were age, family income and work. The interviewees with the highest mean scores were those aged between 40 and 60 years ( $M=12.77$ ), with income higher than four MW ( $M=16.83$ ) and who had paid work ( $M=12.82$ ). In the spiritual domain, only the factors male gender and age group greater than 60 years presented significance ( $M=13.73$  and  $M=14.00$ , respectively).

**Table 2** - Distribution of the mean and standard deviation of the quality of life scores of the WHOQOL-HIV-Bref domains, according to sociodemographic data of those evaluated. Recife, PE, Brazil, 2016

Evaluated factor	Physical	Psychological	Independence	Social relations	Environment	Spiritual
<b>Gender</b>						
Female	13.36±3.63	13.29±3.36	13.78±2.49	12.73±4.09	11.69±2.95	11.51±4.36
Male	15.15±3.35	15.40±2.46	13.81±2.84	14.60±3.39	12.47±2.94	13.73±3.85
P-value <sup>1</sup>	0.004	<0.001	0.556	0.007	0.066	0.003
<b>Age group</b>						
18-28	14.34±3.32	14.51±2.66	14±2.09	13.49±3.68	11.17±2.90	11.20±4.04
29-39	13.44±3.56	12.90±3.44	14.02±2.34	12.96±4.08	11.70±2.52	11.27±4.24
40- 60	14.27±3.89	14.79±3.11	13.54±3.01	13.83±3.91	12.77±3.18	13.83±4.16
>60 <sup>2</sup>	14	12.80	8	6	6.50	14
p-value <sup>3</sup>	0.555	0.014	0.444	0.277	0.011	0.006
<b>Education level</b>						
None	9.33±2.31	12.80±1.39	11.67±3.51	11.67±3.79	9.83±3.33	12±5.29
Incomplete elementary	13.86±3.49	13.27±3.16	13.45±2.91	12.41±3.76	11.55±2.60	12.36±4.52
Complete elementary	13.14±4.45	13.22±3.71	13.71±2.88	13.10±4.25	10.83±3.21	11.71±4.60
Incomplete high school	14.09±3.38	14.69±3.46	13.73±2.39	13.14±3.75	12.64±2.71	12.32±4.19
Complete high school	14.58±3.43	14.62±2.75	14.42±2.31	14.05±4.24	12.26±2.97	12.63±4.15
Incomplete higher	14.42±3.37	15.27±3.08	14±1.71	15.75±2.26	13.12±2.42	11.33±3.47
Complete higher	14.60±4.16	13.60±4.66	12.60±2.97	13.80±4.44	13.40±5.27	13.20±6.26
p-value <sup>3</sup>	0.357	0.197	0.501	0.134	0.146	0.982
<b>Marital status</b>						
Married/partner	14.23±3.54	14.14±3.08	13.85±2.43	13.74±4.03	12.02±2.97	12.31±4.74
Single	13.85±3.85	14.20±3.20	13.71±2.89	13.06±3.92	11.80±2.89	12.69±3.83
Widowed	13.50±3.11	12.60±6.14	13.50±2.08	13.75±4.65	14.25±2.60	10.25±2.50
Separated	12.86±2.91	11.89±3.01	14±2.31	12.29±3.15	11.57±3.78	9.29±3.59
p-value <sup>1</sup>	0.729	0.268	0.946	0.556	0.405	0.154
<b>Family income</b>						
Up to 1 MW	13.36±3.78	13.24±3.15	13.27±2.95	12.64±3.90	11.18±2.86	11.91±4.35
1 to 2 MW	14.68±3.27	14.92±3.32	14.71±1.82	13.68±4.15	12.65±2.40	12±4.15
2 to 3 MW	15.31±3.02	14.83±2.60	14.23±1.54	14.77±3.30	12.50±2.89	12.85±3.58
3 to 4 MW	15.75±2.87	17.10±2.09	14.88±1.25	17.12±1.25	15.38±1.83	15.75±4.46
> 4 MW	14.67±4.51	16±0.80	14.33±1.53	16.67±0.58	16.83±2.08	15±5
p-value <sup>3</sup>	0.133	0.001	0.130	0.002	<0.001	0.156
<b>Working</b>						
Yes	14.57±3.27	14.88±2.74	14.88±1.63	14.05±3.86	12.82±2.73	12.83±4.18
No	13.53±3.83	13.36±3.44	12.95±2.89	12.87±3.96	11.31±2.99	11.86±4.38
p-value <sup>1</sup>	0.116	0.009	<0.001	0.054	0.003	0.160

<sup>1</sup>p-value of the Mann-Whitney test; <sup>2</sup>The standard deviation was not calculated in the subgroup of over 60 years, in the age group, because there was only one older adult in the study sample; <sup>3</sup>p-value of the Kruskal-Wallis test.

Table 3 identifies the mean QoL score according to the clinical and health behavior domains of those evaluated. In the physical domain, it was verified that adherence to ART in the medical record was the most significant factor to change the QoL ( $p=0.028$ ), as the group that did not have a record of non-adherence to ART showed a better mean QoL score ( $M=14.32$ ).

Regarding social relations, there was no significance for any data evaluated. However, the spiritual domain revealed that the time since HIV diagnosis of over 10 years and length of ART treatment also over 10 years were determinant to significantly change the QoL, presenting the means of 14.12 points and 12.63 points, respectively.

In the psychological and level of independence domains, no variable was statistically significant to modify the QoL.

**Table 3** - Distribution of the mean and standard deviation of the quality of life scores of the WHOQOL-HIV-Bref domains, according to clinical and health behavior data of those evaluated. Recife, PE, Brazil, 2016. (continues)

Evaluated factor	Physical	Psychological	Independence	Social relations	Environment	Spiritual
<b>Time since diagnosis</b>						
<1 year	14.23±3.70	15.32±2.71	14.08±3.33	14.46±3.78	10.96±2.69	12.62±5.20
1 to 5 years	13.72±3.64	13.51±3.65	13.42±2.53	12.76±4.03	11.85±3.03	11.74±4.41
5 to 10 years	13.94±3.49	14.11±2.78	14.58±2.41	13.67±3.85	12.12±2.63	11.55±3.78
>10 year	14.50±3.81	14.55±2.68	13.69±2.56	14.03±3.86	12.47±3.24	14.12±3.83
<i>p</i> -value <sup>3</sup>	0.736	0.275	0.107	0.308	0.521	0.042
<b>Length of treatment</b>						
Less than 1 year	14.12±4	14.95±3.38	14.25±3.15	14±4.02	11.38±2.62	11.56±5.19
1 to 5 years	13.84±3.59	13.37±3.63	13.34±2.54	12.47±4.15	11.81±3.09	11.71±4.41
5 to 10 years	13.17±3.70	14±2.54	14.27±2.64	14.03±3.58	12±2.63	11.77±3.62
More than 10 years	15.16±3.34	15.20±2.09	14.15±2.32	14.78±3.30	12.87±3.02	15.07±3.10
<i>p</i> -value <sup>3</sup>	0.174	0.053	0.116	0.056	0.427	0.003
<b>Performs physical activity</b>						
Yes	14.24±3.52	13.98±2.95	14.24±2.22	13.36±4.02	12.46±2.44	11.72±4
No	13.93±3.66	14.03±3.30	13.70±2.67	13.38±3.95	11.86±3.05	12.39±4.38
<i>p</i> -value <sup>1</sup>	0.759	0.773	0.410	0.968	0.258	0.484
<b>Uses condoms</b>						
Yes	14.41±3.41	14.67±2.88	13.98±2.60	14.06±3.74	11.94±2.84	12.60±4.33
No	13.35±3.82	12.60±3.32	13.70±2.25	12.25±4.58	11.42±2.48	11.85±4.53
Sometimes	14.19±4.17	14.35±3.71	14.38±2.31	13.69±4.21	12.81±3.03	13.31±4.27
Does not have sexual intercourse	12.88±3.77	12.71±3.43	12.85±2.94	11.77±3.50	11.92±3.64	10.88±3.96
<i>p</i> -value <sup>3</sup>	0.249	0.006	0.305	0.029	0.604	0.198

<b>Transmission route</b>						
Vertical	12.50±0.71	14.80±0.57	14.50±2.12	15.50±0.71	12.50±1.41	15.50±4.95
Sexual intercourse	14.04±3.65	14.02±3.26	13.78±2.61	13.34±3.99	12.01±2.96	12.25±4.33
Sharps <sup>2</sup>	10	16	16	14	6.50	12
Others <sup>2</sup>	12	11.20	11	15	10	11
<i>p</i> -value <sup>3</sup>	0.506	0.648	0.480	0.902	0.338	0.781
<b>Opportunistic illness</b>						
Yes	14.09±3.88	13.55±3.09	13.40±2.16	13.77±3.69	12.60±3.16	13±4.95
No	14.09±3.88	14.16±3.27	13.90±2.72	13.26±4.03	11.77±2.88	12.06±4.10
<i>p</i> -value <sup>1</sup>	0.839	0.274	0.077	0.608	0.192	0.287
<b>Lack of adherence to ART</b>						
Yes	12.88±3.49	13.01±3.88	13.47±2.57	12.97±4.08	11.79±3.04	11.09±4.20
No	14.32±3.63	14.29±2.97	13.86±2.62	13.49±3.93	12.05±2.93	12.68±4.28
<i>p</i> -value <sup>1</sup>	0.028	0.114	0.225	0.420	0.501	0.069

<sup>1</sup>*p*-value of the Mann-Whitney test; <sup>2</sup>The standard deviation was not calculated in the of sharps injuries and others sub-groups in the transmission route because there was only one patient in the study sample in each fraction; <sup>3</sup>*p*-value of the Kruskal-Wallis test.

## ● DISCUSSION

The prevalence of the female gender was observed, because, although the literature still stands out for men, recent and national surveys show a greater representativeness of the female sex. This is consistent with the current epidemiological tendency of the disease in the country, marked by feminization, pauperization and increased vulnerability of the non-young population<sup>(9-10)</sup>. However, it should be mentioned that HIV transmission is mainly associated with sexual risk behaviors such as non-use of condoms, multiple sexual partners, early initiation of sexual relations and use of psychoactive substances during sexual practice<sup>(11)</sup>.

In the social aspect, the results are similar to those reported by the Ministry of Health<sup>(2)</sup>. It is important to emphasize that the economic disparities found are aggravating to worsen the health situation of people, due to the association with the conditions of vulnerability to HIV. Thus, there has been an incessant search for the guarantee of the rights to health of all and the change in the current profile of AIDS, which clearly shows the social injustices<sup>(12)</sup>.

Regarding the clinical variables, the highest percentage found, related to the time since diagnosis variable, was of individuals with knowledge of their serological situation for less than 5 years, data consonant with recent studies<sup>(10,13)</sup>. From that presented, the participation of the multiprofessional team in the specialized services of care to the PLHA is essential to strengthen adherence to the treatment, since the first years of monitoring are fundamental for the guarantee of strengthening of the bond with the professionals and for the empowerment of the patients in the co-responsibility for their treatment.

Another variable that was highlighted was the significant number of people who reported using the condom in an irregular manner. In this sense, it is imperative to reinforce that unprotected sexual activity is the preponderant factor for the maintenance of the HIV chain of transmission. An investigation, developed in the United States of America, identified that the main arguments of the participants involved in not regularly using condoms were personal preference and fear of rejection, similar to the present study<sup>(14)</sup>.

In more than 95% of the interviewees, HIV transmission occurred through sexual intercourse, ratifying the latest epidemiological bulletin on HIV/AIDS, according to which, in more than 80% of recorded cases in Brazil the spread of the virus was due to unsafe sex<sup>(2)</sup>.

Among seroconcordant couples, regular condom use is the most effective preventive measure as it is intended to prevent reinfection with drug-resistant strains, increase in the viral load and transmission of other sexually transmitted infections (STIs). In this way, health institutions should be organized to include, in the integral care of their clients, the aspects of the sexual life, with the provision of prevention consumables and assistance with orientation on the preventive aspects, since the free distribution of the condom does not eliminate the cultural, social and emotional barriers that lead to unprotected sexual practices<sup>(15)</sup>.

From the results, a low participation of the interviewees in physical activities was identified, which constitutes an unsatisfactory level of this activity in this population. The development of this practice is recommended for all people, since, in addition to being beneficial and safe, it has positive effects on metabolic, morphological, psychological and functional parameters<sup>(16)</sup>.

Regarding the presence of opportunistic infections in individuals with immunological compromise, it is necessary to differentiate the AIDS cases from asymptomatic-controlled ones, since the presence of these diseases are directly related to the immunocompetence of the patient<sup>(17)</sup>.

In order to achieve better therapeutic results and prevent the development of unfavorable outcomes, good adherence to ART is essential. A little more than 22% of the participants with a description of failure in the adherence in the medical records were found in this study; however, no cutoff point was established for the definition of good adherence, this therefore being a limitation in this variable.

This study highlights the relevance of sociodemographic variables for the measurement of QoL. The women presented lower scores in all domains evaluated, which shows greater female vulnerability to QoL impairment. This vulnerability is caused by marked differences in cultural, social and economic aspects, which do not confer equal opportunities for health promotion, protection and maintenance, which justifies the socioeconomic transition of the infection<sup>(9)</sup>.

Regarding the age group, the population that was between 40 and 60 years of age presented a better QoL score in the psychological, social, environment and spiritual domains, data that corroborate a study carried out in Nigeria, where a similar result was found when investigating the relationship of QoL with the range age<sup>(18)</sup>. In contrast, a study conducted in the Chinese province of Zhejiang showed that PLHA younger than 30 years had better QoL scores in all six domains evaluated<sup>(19)</sup>. These data reaffirm that the effects of HIV infection can be aggravated by the process of immunosenescence, affecting the QoL of older adults.

Although the present study did not demonstrate a statistically significant relationship between the level of education and QoL, other studies conducted in China, Brazil and Uganda showed that the greater the education level, the higher the QoL of the people. This is because the education level and access to information on HIV/AIDS are directly proportional, enabling PLHA with more years of schooling to have better internal and external resources to cope with their serological condition<sup>(12,19)</sup>.

People who reported working had a better mean QoL, which corroborates other studies in which this finding indicates that the inclusion of PLHA in the working environment favors the increase in QoL<sup>(9,14)</sup>.

Regarding the length of treatment and the time since HIV diagnosis, an association with the spirituality domain was identified. Spirituality refers to the meaning of life and reason for living, not just religious beliefs and practices. The individuals that achieved the best scores in this domain were those who had 10 years or more of diagnosis and treatment, and this circumstance may explain that over time there is a maturation process in the perception of living with HIV<sup>(20)</sup>.

Those that did not have any registration in their medical records of non-adherence to ART had a higher mean in all domains and, therefore, a statistically significant impact on the physical health. It is known that ART improves QoL by causing a decrease in the number of HIV copies, improving immunity, reducing the onset of opportunistic infections and viral resistance and, thus, reducing HIV transmission.

It should be noted that in the care process, health professionals, especially nurses, play a fundamental role in improving the quality of PLHA. This professional is able to develop health education actions that include the (re)construction of habits that improve the QoL, in addition to assisting in the integrality of the subjects living with a chronic and stigmatizing disease such as HIV, from the biopsychosocial factors, guided, above all, by the systematization of nursing care<sup>(21-22)</sup>.

Therefore, the great advances that have been made in the area of HIV/AIDS in Brazil can be recognized, which have led to the reduction of AIDS mortality since the introduction of ART. However, the establishment of these advances was not accompanied by an expansion of the services or qualified health professionals, resulting in a situation in which users already complain about the delay in marking appointments and the difficulty of access to specialized exams and treatments, which is negatively reflected in the QoL of PLHA.

Finally, identifying the sociodemographic, health behavior and clinical profile, as well as the domains of QoL of PLHA, should contribute to support the planning of public policies directed toward the development of actions in the health area aimed at improving the QoL of people with an HIV positive diagnosis.

The study presented limitations related to the cross-sectional design and a non-probabilistic sample, which does not allow cause and effect relationships to be established. The results, however, add new scientific knowledge about PLHA behavior, supporting the planning of health and QoL promotion actions, especially in the Northeast of the country.

## ● CONCLUSION

Quality of life is a parameter for the evaluation of the health levels of a population, therefore it has a polysemic notion. Because HIV infection is a chronic condition it requires continuous treatment, permeated by several stigmas since its origin, and affects the QoL of PLHA in various aspects. In this study, it was evidenced that the way in which the various factors influence the QoL of PLHA is fairly heterogeneous.

The results presented in this construct show impairment in QoL for PVHA, with emphasis on economic and sociodemographic variables, which were the ones that most influenced the measurement, interfering in all domains.

Despite advances in the area of HIV, many challenges remain in the social context, in prevention and in care. Thus, the understanding of QoL for PLHA is fundamental, since an HIV positive diagnosis still affects the individual and extends to all areas of life, transcending the physical state and reaching the context of social and sexual relations, psychological and spiritual health.

Finally, it is hoped that the study may have contributed to the expansion of knowledge about aspects that promote better QoL for HIV-infected individuals, favoring the construction of new strategies capable of mitigating the impact of this disease on society, improving adherence and strengthening the policies of the National STI/AIDS Program.

## ● REFERENCES

1. The Joint United Nations Program on HIV/AIDS (UNAIDS). Global AIDS UPDATE - 2016. 2016 [accessed on 12 Mar 2017]. Available at: [http://www.unaids.org/sites/default/files/media\\_asset/global-AIDS-update-2016\\_en.pdf](http://www.unaids.org/sites/default/files/media_asset/global-AIDS-update-2016_en.pdf).
2. Ministério da Saúde (BR). Secretaria de Vigilância em Saúde, Departamento de DST, AIDS e Hepatites Virais. Boletim Epidemiológico AIDS e DST. Brasília: Ministério da Saúde; 2016.

3. Vieira ACS, Rocha MSG, Head JF, Casimiro IMAPC. A epidemia de HIV/Aids e a ação do Estado. Diferenças entre Brasil, África do Sul e Moçambique. *Rev. katálysis*. [Internet] 2014;17(2) [accessed on 13 Jul 2017]. Available at: <http://dx.doi.org/10.1590/S1414-49802014000200005>.
4. Herrmann S, McKinnon E, Hyland NB, Lalanne C, Mallal S, Nolan D, Chassany O, et al. HIV-related stigma and physical symptoms have a persistent influence on health-related quality of life in Australians with HIV infection. *Health qual. life outcomes*. [Internet] 2013;11(56) [accessed on 10 May 2017]. Available at: <https://doi.org/10.1186/1477-7525-11-56>.
5. Pereira EF, Teixeira CS, dos Santos A. Qualidade de vida: abordagens, conceitos e avaliação. *Rev. bras. educ. fís. esporte*. [Internet] 2012;26(2) [accessed on 13 Jul 2017]. Available at: <http://dx.doi.org/10.1590/S1807-55092012000200007>.
6. Hipolito RL, de Oliveira DC. Quality of Life of people living with HIV/AIDS: a cross-sectional study. *Online braz. j. nurs*. [Internet] 2016;15(suppl) [accessed on 01 Jun 2017]. Available at: <http://dx.doi.org/10.17665/1676-4285.20165855>.
7. Reyhler G, Caty G, Vincent A, Billo S, Yombi JC. Validation of the French Version of the World Health Organization Quality of Life HIV Instrument. *PLoS One*. [Internet] 2013;8(9) [accessed on 16 Apr 2017]. Available at: <https://doi.org/10.1371/journal.pone.0073180>.
8. Oliveira Filho JS, Silva PE, Freitas FFQ, Soares JP, Costa MAG, Oliveira e Silva AC, et al. Qualidade de vida de pessoas vivendo com HIV/AIDS. *Rev. Baiana de Enfermagem*. [Internet] 2014;28(1) [accessed on 13 Jul 2017]. Available at: <https://portalseer.ufba.br/index.php/enfermagem/article/view/9088>.
9. de Souza CC, da Mata LRF, Azevedo C, Gomes CRG, Cruz GECP, Toffano SEM. Interiorização do HIV/Aids no Brasil: um estudo epidemiológico. *Revista Brasileira Ciências da Saúde*. [Internet] 2013;11(35) [accessed on 13 May 2017]. Available at: [http://seer.uscs.edu.br/index.php/revista\\_ciencias\\_saude/article/view/1798/1380](http://seer.uscs.edu.br/index.php/revista_ciencias_saude/article/view/1798/1380).
10. Oliveira e Silva AC, Reis RK, Nogueira JA, Gir E. Quality of life, clinical characteristics and treatment adherence of people living with HIV/AIDS. *Rev. Latino-Am.Enfermagem*. [Internet] 2014;22(6) [accessed on 16 Apr 2017]. Available at: <http://dx.doi.org/10.1590/0104-1169.3534.2508>.
11. Pereira TG, de Araújo LF, Negreiros F, Barros Neto RNS. Análise do comportamento sexual de risco à infecção pelo HIV em adultos da população em geral. *Psico*. [Internet] 2016;47(4) [accessed on 14 Feb 2018]. Available at: <http://dx.doi.org/10.15448/1980-8623.2016.4.23703>.
12. Passos SMK, Souza LDM. An evaluation of quality of life and its determinants among people living with HIV/AIDS from Southern Brazil. *Cad. Saúde Pública*. [Internet] 2015;31(4) [accessed on 19 Apr 2017]. Available at: <http://dx.doi.org/10.1590/0102-311X00000514>.
13. Taquette SR. HIV/Aids among adolescents in Brazil and France: similarities and differences. *Saúde Soc*. [Internet] 2013;22(2) [accessed on 13 May 2017]. Available at: <http://dx.doi.org/10.1590/S0104-12902013000200029>.
14. Camacho-Gonzalez AF, Wallins A, Toledo L, Murray A, Gaul Z, Sutton MY, et al. Risk Factors for HIV Transmission and Barriers to HIV Disclosure: Metropolitan Atlanta Youth Perspectives. *AIDS Patient Care and STDs*. [Internet] 2016;30(1) [accessed on 03 Jun 2017]. Available at: <http://dx.doi.org/10.1089/apc.2015.0163>.
15. Reis RK, Melo ES, Gir E. Fatores associados ao uso inconsistente do preservativo entre pessoas vivendo com HIV/Aids. *Rev. Bras. Enferm*. [Internet] 2016;69(1) [accessed on 22 Apr 2017]. Available at: <http://dx.doi.org/10.1590/0034-7167.2016690106i>.
16. de Lima LRA, Teixeira DM, dos Santos ECM, Petroski EL. Contribution of Physical Education in the fields of sport, physical activity, health and education for children and young people living with HIV. *Rev. Bras. Cineantropom Desempenho Hum*. [Internet] 2016;18(2) [accessed on 22 Apr 2017]. Available at: <http://dx.doi.org/10.5007/1980-0037.2016v18n2p243>.
17. Spezia LP, Picarelli MEA, Santos ABR. Avaliação da AIDS e a ocorrência de doenças oportunistas e sexualmente transmissíveis em pacientes infectados pelo HIV residentes na região de Indaiatuba, SP. *J. Health Sci. Inst*. [Internet] 2015;33(4) [accessed on 22 Apr 2017]. Available at: [http://www.unip.br/comunicacao/publicacoes/ics/edicoes/2015/04\\_out-dez/V33\\_n4\\_2015\\_p303a308.pdf](http://www.unip.br/comunicacao/publicacoes/ics/edicoes/2015/04_out-dez/V33_n4_2015_p303a308.pdf).

18. Akinboro AO, Akinyemi SO, Olaitan PB, Raji AA, Popoola AA, Awoyemi OR, et al. Quality of life of Nigerians living with human immunodeficiency virus. *Pan African Medical Journal*. [Internet] 2014;18(234) [accessed on 28 Apr 2017]. Available at: <http://dx.doi.org/10.11604/pamj.2014.18.234.2816>.
19. Liping M, Peng X, Haijiang L, Lahong J, Fan L. Quality of life of people living with HIV/AIDS: A cross sectional study in Zhejiang province, China. *PLoS One*. [Internet] 2015;10(8) [accessed on 02 Jun 2017]. Available at: <http://dx.doi.org/10.1371/journal.pone.0135705>.
20. da Silva JB, da Silva LB. Relação entre religião, espiritualidade e sentido da vida. *Revista logos & existência*. [Internet] 2014;3(2) [accessed on 30 May 2017]. Available at: <http://periodicos.ufpb.br/ojs/index.php/le/article/view/22107/12148>.
21. dos Santos EI, da Silva AL, Santana PPC, Teixeira PA. Evidências científicas brasileiras sobre adesão à terapia antirretroviral por pessoas que vivem com HIV/AIDS. *Revista Eletrônica Gestão & Saúde*. [Internet] 2016;7(1) [accessed on 02 Jul 2017]. Available at: <http://dx.doi.org/10.18673/gs.v7i1.22092>.
22. Padoin SMM, Zuge SS, dos Santos EEP, Primeira MR, Aldrighi JD, de Paula CC. Adesão à terapia antirretroviral para HIV/Aids. *Cogitare Enferm*. [Internet] 2013;18(3) [accessed on 02 Aug 2017]. Available at: <http://dx.doi.org/10.5380/ce.v18i3.33553> .