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ASSOCIATION OF ALCOHOL AND DRUG USE AND ADHERENCE TO ANTIRETROVIRAL TREATMENT

ASSOCIAÇÃO DO USO DE ÁLCOOL E DROGAS E A ADESÃO AO TRATAMENTO ANTIRRETROVIRAL

ASOCIACIÓN DEL USO DE ALCOHOL Y DROGAS Y LA ADHERENCIA AL TRATAMIENTO ANTIRRETROVIRAL

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ABSTRACT

Objective: to analyze the use of alcohol and drugs in people living with the human immunodeficiency virus and adherence to antiretroviral treatment. **Method:** quantitative, analytical study with 322 people living with the Human Immunodeficiency Virus assisted at the outpatient clinic of two public reference hospitals. For the collection of data related to adherence, the CEAT-HIV instrument was used. The ASSIST was used to evaluate the consumption of alcohol and other substances. A descriptive analysis of the sociodemographic characteristics was carried out and a database was created in the Program Epi Info 7, version 7.0.9. The values obtained through the application of CEAT-VIH were compared. The Pearson correlation test and the Chi square contingency test with a 0.05 significance level were used in the analysis of the data. **Results:** 44.72% of the sample presented low adherence to treatment. The level of adherence associated with use of alcohol ($p = 0.156$), tobacco ($p = 0.215$), marijuana ($p = 0.434$) and cocaine ($p = 0.155$). **Conclusion:** although there was low adherence, there was no significant association between alcohol and drug use in people living with Human Immunodeficiency Virus and adherence to antiretroviral treatment. **Descriptors:** Acquired Immunodeficiency Syndrome; Medication Adherence; Anti-Retroviral Agents; Street Drugs.

RESUMO

Objetivo: analisar o uso de álcool e drogas em pessoas vivendo com o vírus da imunodeficiência humana e adesão ao tratamento antirretroviral. **Método:** estudo quantitativo, analítico, com 322 pessoas vivendo com o Vírus da Imunodeficiência Humana assistidas no ambulatório de dois hospitais públicos de referência. Para a coleta de dados relacionada à adesão, foi utilizado o instrumento CEAT-VIH. Para avaliação do consumo de álcool e outras substâncias, utilizou-se o ASSIST. Realizou-se a análise descritiva das características sociodemográficas e criou-se um banco de dados no Programa Epi Info 7, versão 7.0.9. Foram comparados aos valores obtidos mediante a aplicação do CEAT-VIH. Na análise dos dados, foram empregados os testes de correlação de Pearson, teste de contingência de Qui-Quadrado com nível de significância de 0,05. **Resultados:** 44,72% da amostra apresentaram baixa adesão ao tratamento. O nível de adesão associado ao uso do álcool ($p=0,156$), tabaco ($p=0,215$), maconha ($p=0,434$) e cocaína ($p=0,155$). **Conclusão:** embora haja baixa adesão, não houve associação significativa entre o uso de álcool e drogas em pessoas vivendo com o Vírus da Imunodeficiência Humana e a adesão ao tratamento antirretroviral. **Descritores:** Síndrome de Imunodeficiência Adquirida; Adesão à Medicação; Antirretrovirais; Drogas Ilícitas.

RESUMEN

Objetivo: analizar el uso de alcohol y drogas en personas viviendo con el virus de la inmunodeficiencia humana y adherencia al tratamiento antirretroviral. **Método:** estudio cuantitativo, analítico, con 322 personas viviendo con el Virus de la Inmunodeficiencia Humana asistidas en el ambulatorio de dos hospitales públicos de referencia. Para la recolección de datos relacionada a la adherencia, fue utilizado el instrumento CEAT-VIH. Para evaluación del consumo de alcohol y otras sustancias, se utilizó el ASSIST. Se realizó el análisis descriptivo de las características sociodemográficas y se creó un banco de datos en el Programa Epi Info 7, versión 7.0.9. Fueron comparados a los valores obtenidos mediante la aplicación del CEAT-VIH. En el análisis de los datos, fueron empleados los testes de correlación de Pearson, test de contingencia de Chi-Cuadrado con nivel de significancia de 0,05. **Resultados:** 44,72% de la muestra presentaron baja adherencia al tratamiento. El nivel de adherencia asociado al uso del alcohol ($p=0,156$), tabaco ($p=0,215$), marihuana ($p=0,434$) y cocaína ($p=0,155$). **Conclusión:** aunque haya baja adherencia, no hubo asociación significativa entre el uso de alcohol y drogas en personas viviendo con el Virus de la Inmunodeficiencia Humana y la adherencia al tratamiento antirretroviral. **Descriptor:** Síndrome de Inmunodeficiencia Adquirida; Cumplimiento de la Medicación; Antirretrovirales; Drogas Ilícitas.

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INTRODUCTION

Acquired Immunodeficiency Syndrome (AIDS) is an infectious disease characterized by changes in its evolution. It has come to be seen over time as a pathology related to behaviors of vulnerability to HIV infection, and can affect all people, regardless of class, gender, race or ethnicity, sexual orientation and age range.¹

According to the epidemiological bulletin of the Ministry of Health, since the beginning of the AIDS epidemic in Brazil up to June 2015, 798,366 cases of the disease were reported in the country, 615,022 (77%) of which were reported in the notification system (SINAN), 45,306 (5.7%) in the mortality information system (SIM) and 138,038 (17.3%) in the laboratory examination control system and medication control system (SISCEL/SICLOM), identified by the probabilistic relationship of the data as an underreporting of SINAN. In addition, there are differences in the proportion of data in relation to the regions of the country. The South and Center-West regions have a higher proportion of SINAN cases than the North, Northeast and Southeast regions.²

The proportional distribution of AIDS cases in the country, according to the region, shows that cases are concentrated in the Southeast and South regions, each accounting for 53.8% and 20% of the total cases identified from 1980 to June 2015; the Northeast, Central-West and North regions correspond to 14.6%, 5.9% and 5.7% of the total cases, respectively. From the beginning of the epidemic in 1980 to December 2014, 290,929 deaths were identified, with AIDS as the main cause (CID10: B20 to B24), and most cases were in the Southeast region (61%), followed by the South (17.4%), Northeast (12.3%), Central West (5%) and North (4.2%) regions.²

With the introduction of antiretroviral therapy (ART) in Brazil, there has been a change in the profile of the HIV/AIDS epidemic, which has allowed, over the years, an increase in the survival of people living with HIV/AIDS (PLHA) so that the perception of the society about this syndrome has changed from a death foretold to a chronic disease. ART has provided a significant decrease in mortality rate, favoring a substantial increase in CD4 count and reduction of viral load, slowing the progression of the disease and increasing the survival of patients.³

Adherence to antiretroviral therapy is of paramount importance because the failure of the drug treatment due to nonadherence compromises the effectiveness of

antiretrovirals and can lead to viral resistance.⁴ However, for a drug adherence, the patient should be understood as having an active role, so that he/she participates and assumes responsibility for his/her treatment.⁵ Despite the benefits, many PLWHA have adherence difficulties related not only to the clinical repercussions of the treatment, but also due to the difficulty in accessing the service and, consequently, access to medicines.⁶

Adherence to treatment through the use of ART is a complex process that encompasses subjective factors intrinsic to the person and to their social group that influence the adherence process, thus allowing a real therapeutic association between client and caregiver.⁷ It is also worth noting that the number of deaths due to this disease has been declining in recent years due to the free entry and distribution of this therapy in Brazil.²

OBJECTIVE

- To analyze the association of alcohol and drug use by PLWHA and adherence to antiretroviral therapy.

METHOD

This is a quantitative, descriptive, exploratory study. The population was composed of PLWHA adults and young people using ART with registration in the medication control system (SICLOM). The sample was calculated considering the 95% confidence level, 10% loss percentage and 75% prevalence, obtaining a total of 322 subjects, being 112 in Garanhuns and 210 in Caruaru. Data collection was performed from July 2015 to July 2016.

Patients older than 18 years, having used ART for at least 6 months and having been monitored in the last 12 months regarding CD4 count and viral load were included. Those with a mental disability that compromised the understanding of the research and the pregnant women were excluded from the study. The study was carried out in the specialized care services in HIV/AIDS (SAE), in the municipalities of Garanhuns (Espaço Pró-Vida) and Caruaru (Amélia Pontes Health Center), located in the rural region of Pernambuco.

In order to collect data regarding sociodemographic data and clinical aspects, a form was used consisting of blocks that include the variables of the research, which were collected through interview and survey in the patients' medical records, thus gathering data on the sociodemographic characteristics of patients.

For data collection related to adherence, a Spanish instrument was validated for Portuguese language, the CEAT-VIH, prepared by Professor Eduardo Remor of the Autonomous University of Madrid, who authorized its use for this research. This instrument was applied in the moments that preceded the patients' appointments in the outpatient clinic and had the purpose of evaluating the adherence to ART in PLWHA. It presents a multidimensional character, consisting of 20 items, covering the main factors associated to the adherence behavior.⁸

In order to evaluate the consumption of alcohol and other substances, a validated instrument named Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) was used. This is a structured questionnaire containing eight questions about the use of nine classes of psychoactive substances (tobacco, alcohol, marijuana, cocaine, stimulants, sedatives, inhalants, hallucinogens and opioids). The questions address the frequency of use in life and in the last three months, problems related to use, concern about the use by people close to the user, loss of performance of expected tasks, unsuccessful attempts to cease or reduce use, feeling of compulsion and use by injection. Each answer corresponds to a score ranging from 0 to 8. The score ranging from 0 to 3 is considered as no intervention, except for alcohol, which ranges from 0 to 10 in this category; from 4 to 26 is indicative of a brief intervention; and 27 or more is indicative of more intensive treatment.⁹

For data analysis, the guidelines suggested by the author of the CEAT-HIV were followed. Initially, a descriptive analysis of the sociodemographic characteristics was carried out and a database was created in the Epi Info 7 Program, version 7.0.9, which contains the data obtained through interviews. In order to continue the adherence evaluation and alcohol use in the present study, the values obtained through the application of CEAT-VIH were compared. Pearson correlation test and the Chi-Square contingency test with a 0.05 significance level were used in the analysis of the data. The project was approved by the Research Ethics Committee (CEP), under approval certificate No. 55169316.0.0000.5192.

RESULTS

Table 1 shows the sociodemographic profile of the sample, which was characterized by age range between 40 and 60 years (51.24%), male participants (61.18%), with low level of education represented by incomplete primary education (45.03%), brown color (48%) and married individuals (39.4%).

The treatment time of PLWHA with antiretrovirals ranged from 6 months to 20 years, with a mean of 5.66 years and a standard deviation of 4.5 years. Regarding the level of adherence to ART, based on the *Cuestionario para la Evaluación de La Adhesión al Tratamiento Antirretroviral*, it was obtained low adherence (44.72%), high adherence (29.19%) and moderate adherence (26.09%).

Table 1. Distribution of people living with HIV/AIDS under antiretroviral treatment according to sociodemographic profile in the Caruaru and Garanhuns Specialized Care Services (PE), 2016, Brazil. (n=322)

Variable	n	%
Age range		
18 to 28 years	31	9.63
29 to 39 years	103	31.99
40 to 60 years	165	51.24
More than 60 years	23	7.14
Gender		
Female	125	38.82
Male	197	61.18
Degree of education		
None	33	10.25
Incomplete Primary Education	145	45.03
Complete Primary Education	30	9.32
Incomplete Secondary Education	24	7.45
Complete Secondary Education	67	20.81
Incomplete Higher Education	11	3.42
Complete Higher Education	12	3.73
Color (self-declared)		
Yellow	6	2.00
White	106	33.00
Natives	3	1.00
Brown	155	48.00
Black	52	16.00
Marital status		
Married	127	39.44

Single	121	37.58
Widowed	26	8.07
Divorced	48	14.91
Time of treatment		
Less than 1 years (from 6 months)	8	2.48
1 to 5 years	159	49.38
5 to 10 years	110	34.16
More than 10 years	45	13.98
Level of adherence (1)		
High	94	29.19
Moderate	84	26.09
Low	144	44.72
Total	322	100

(1): Levels defined according to the adherence classification to the antiretroviral treatment of the validated version for the Portuguese language (Brazil) of the “*Cuestionario para la Evaluación de la Adhesión al Tratamiento Antiretroviral*”

Regarding the association between adherence to ART in PLWHA and the classification of intervention for use of alcohol, tobacco, marijuana and cocaine, it can be seen in Table 2 that no significant association was found between these observations and the use of alcohol (p = 0.156), tobacco (p = 0.215), marijuana (p = 0.434) and cocaine (p = 0.155).

Table 2. Evaluation of the level of adherence and classification of intervention for use of alcohol, tobacco, marijuana and cocaine in the Caruaru and Garanhuns Specialized Care Services, Pernambuco, Brazil, 2016. (n=322).

Alcohol use intervention ⁽²⁾					
Level of adherence (1)	No Intervention	Brief Intervention	Intensive Intervention	Total	p-value ⁽³⁾
Low	110	30	4	144	p= 0.156
Moderate	70	13	0	83	
High	82	12	1	95	
Total Group	262	55	5	322	
Tobacco Use Intervention ⁽²⁾					
Level of adherence (1)	No Intervention	Brief Intervention	Intensive Intervention	Total	p-value ⁽³⁾
Low	85	44	15	144	p=0.215
Moderate	53	27	3	83	
High	64	22	9	95	
Total Group	202	93	27	322	
Marijuana Use Intervention ⁽²⁾					
Level of adherence (1)	No Intervention	Brief Intervention	Intensive Intervention	Total	p-value ⁽³⁾
Low	135	9	0	144	p=0.434
Moderate	81	2	0	83	
High	89	6	0	95	
Total Group	305	17	0	322	
Cocaine Marijuana Use Intervention ⁽²⁾					
Level of adherence (1)	No Intervention	Brief Intervention	Intensive Intervention	Total	p-value ⁽³⁾
Low	141	3	0	144	p=0.155
Moderate	83	0	0	83	
High	95	0	0	95	
Total Group	319	3	0	322	

(1): Levels defined according to the adherence classification to the antiretroviral treatment of the validated version for the Portuguese language (Brazil) of the “*Cuestionario para la Evaluación de la Adhesión al Tratamiento Antiretroviral*”.

(2): Classification carried out by the ASSIST instrument.

(3): From the Pearson Chi-square test.

DISCUSSION

The analysis revealed that the sociodemographic characterization of the individuals converges with the profile of the HIV epidemic in Brazil, that is, men, aged more than thirty years, with low education, low

income and having sexual transmission as the main route of contagion.⁶

Similarly, the municipality of Itapira (SP) showed that 69.50% of PLWHA were men and 30.50% were women, characterizing a masculinity ratio of 2 men for 1 woman.¹⁰ A survey carried out in a reference hospital in

Pernambuco on infectious diseases indicated that more than 50% of the individuals were also male, which agrees with data of the present study.¹¹

According to the Epidemiological Bulletin of STD/AIDS, in Brazil from 1980 to June 2015, 798,143 cases of AIDS were registered, and 65% of this total was among men and 35% among women. In the period from 2004 to 2008, the sex ratio had been 15 cases in men for every 10 cases in women. However, as of 2009, there has been a reduction in cases of AIDS in women and an increase in cases in men, reflecting in the sex ratio, which was 19 cases of AIDS in men for every 10 cases in women in 2014.²

With regard to low schooling, this may represent difficulties for access to health services. Low schooling has also been found and described in the literature, and a study stated that AIDS has reached more broadly people with low educational level and with socioeconomic vulnerabilities.¹² Several studies in different regions of Brazil also pointed to low schooling as the most prevalent level of education. Given this fact, it can be concluded that a low education or low knowledge about ART can lead to low drug adherence.^{1-2, 12-3}

Regarding color, in this research, the brown one was predominant, which converges with the data published on the epidemiological bulletin of HIV/AIDS of the year 2015, which showed that, comparing the proportional distribution of AIDS cases according to race/color by sex from 2005 to 2014, it was observed that there is no difference in the proportions of whites, yellows, browns and natives according to sex, except among blacks, for whom the proportion of men is lower than that of women. In addition, according to the bulletin, there has been an increase in the proportion of cases among self-declared browns and a decrease in the proportion of cases among whites.²

Concerning the marital situation, this study found that the majority was married, followed by the single ones. Corroborating this research, it was observed that 55.4% of the patients were single and 36.3% were married/in a stable union.¹⁴

Regarding treatment time and ART, similar studies also evaluated drug adherence through CEAT-VIH and obtained a treatment time of 1 to 5 years.¹⁴⁻⁵

It has been observed that low adherence to ART is a concerning issue. The professionals in this context are extremely important as they are responsible for encouraging, clarifying and raising patients' awareness about of the care

with their own health, seeking, above all, a better quality of life. Insufficient drug adherence can lead to complications, increased number of hospitalizations, opportunistic diseases, higher expenditures for the Unified Health System, overcrowding, increased mortality and, especially, poor quality of life.³⁻⁴

Nevertheless, non-adherence to treatment, especially for PLWHA, is a broader problem. The consequences of this situation bring harm to the very individual that does not adhere and can affect the population in general. In a study, a large part of the users were also considered at a "low/moderate" level of adherence. It is worth highlighting that insufficient adherence can lead to low disease delay and decreased quality of life, among others, for patients under treatment.¹⁶

Regarding the association of drugs with ART, there was no significant association between the level of adherence and the need of intervention due to the use of alcohol and other drugs (tobacco, marijuana and cocaine). This fact may also be related to the stigma still existing in society regarding the use of alcohol and other drugs, especially because there are few reports surveying users about this.

However, there is a need for continuous screening of the use of substances such as alcohol and other drugs as a vital part of improving adherence to HIV medication and maintaining the overall health of PLWHA in order to implement health promotion actions.¹⁷

However, studies have found a significant number of users of tobacco, alcohol, and illicit drugs with risk for low adherence, a strong association between alcohol use and failure in therapy measured by self-report of the patient and also that non-adherence was higher among individuals using licit and illicit drugs, however, this data had no statistical significance.¹⁸⁻²⁰

However, several factors affect adherence to drug therapy, among them, in a harmful way, the use of drugs. Authors have stated that, despite the influences, it is necessary to analyze the patients' behavior in the face of the disease and their social and clinical conditions to conclude whether the use of alcohol, tobacco and other drugs interferes in the effectiveness of ART.¹²

In this sense, it was verified that most patients followed the guidelines to have healthy life habits, since only a small proportion used licit and illicit drugs.⁶ The ART, when associated with alcohol, increases the risk of hepatotoxicity, and tobacco causes

pulmonary and cardiovascular complications; illicit drugs bring the risk of toxicity.²¹ This said, we can infer the need for the professionals that accompany the PLWHA in the SAEs to promote health education in order to provide guidance on the non-use of these substances, showing the real risks of this combination. This action may contribute so that the service has an improvement in the level of adherence to ART.

CONCLUSION

The low adherence of PLWHA to ART in rural areas in Pernambuco is evidenced, leading to the assumption that there is fragility in the promotion of user safety, although there was no association between low adherence to ART and use of alcohol and other drugs (tobacco, marijuana and cocaine).

However, it is worth mentioning that adherence to ART is influenced by several factors, making it urgent for all those involved in the care for PLWHA to rethink about their care practices and to reflect on how to raise users' awareness about their responsibilities, not only in the treatment, but also in the their own health status.

It is known that the use of alcohol and other drugs influence self-care not only for the PLWHA. When using these substances, subjects may be vulnerable to changing the proposed treatment regimen. Thus, guidance on harm and the conscious use of such drugs may positively affect levels of adherence.

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