

Epidemiological Profile Cases of Acquired Immunodeficiency Syndrome at the Franco-Brazilian Border

Perfil Epidemiológico dos Casos Notificados da Síndrome da Imunodeficiência Adquirida na Fronteira Franco-Brasileira

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Abstract

In spite of intense public policies to raise awareness, prevention and incentive to treat the HIV virus with the use of antiretrovirals, the Borders region in particular of the Northern Brazil still suffers the increase of HIV cases. To identify the epidemiological profile of the reported cases of HIV in the municipality of Oiapoque, Amapá (Brazil), Franco-Brazilian border. Through a descriptive, retrospective, documental study with a quantitative approach, conducted in the period from 2014 to 2016. Twenty-seven cases of HIV were reported in the period, with a significant increase in the last year, 59% of males, from 20 to 39 years of age, and of the people affected, 18% work in mining areas. Even with the reduction of HIV rates in Brazil, greater investment in education is required, seeking to raise awareness among the population for preventive practices and reduce contamination rates, especially in the border region.

Keywords: HIV. Communicable Disease Control. Health Services Research.

Resumo

Apesar de intensas políticas públicas de conscientização, prevenção, e incentivo ao tratamento do vírus HIV com o uso de antirretrovirais, a região de Fronteiras em especial do Norte do Brasil ainda sofre o aumento de casos de HIV. Identificar o perfil epidemiológico dos casos notificados de HIV no município de Oiapoque, Amapá (Brasil), fronteira franco-brasileira. Através de um estudo descritivo, retrospectivo, documental com abordagem quantitativa, realizado no período de 2014 a 2016. Foram notificados no período 27 casos de HIV, com aumento importante no último ano, 59% do sexo masculino, predominando a faixa de 20 a 39 anos e, das pessoas afetadas, 18% trabalham em áreas de garimpo. Mesmo com a redução dos índices de HIV no Brasil, é preciso maior investimento em educação, buscando conscientizar toda a população para práticas preventivas e reduzir os índices de contaminação principalmente na região de fronteiras.

Palavras-chave: HIV. Controle de Doenças Transmissíveis. Pesquisa.

1 Introduction

Acquired Immunodeficiency Syndrome (AIDS) is a viral pathology that affects thousands of people worldwide and, because it is a disease without cure, causes great tension in people diagnosed with the virus. This syndrome directly affects the individual's immune system, making it more favorable to opportunistic infections, and this is the most common characteristic in immunodepressed patients¹.

The emergence of AIDS epidemic has put public authorities around the world on alert to the new virus, which was devastating with dozens of people infected with the disease. The epidemic has had serious consequences for the infected individuals and their families, and the greatest challenge of health teams worldwide was considered at the time^{1,2}.

AIDS is a disease caused by the Human Immunodeficiency Virus (HIV) and contamination can occur sexually, without protective measures and through the blood, the use of cutting and piercing materials and transfusion with contaminated blood. In 1983, after several studies related to the disease, the

etiologic pathology agent, a retrovirus, with two subtypes, HIV-1 and HIV-2, circulating in the body of infected individuals, was identified³.

The best way to detect HIV is by screening the disease, in which rapid tests and enzyme assays such as ELISA are used and are offered in health units throughout Brazil⁴. However, when the results are doubtful, specific assays such as: Western Blot (WB), Immunoblot (IB) or line immunoassays (LIA - Line Immuno Assay), Rapid Immunoblot (IBR) and indirect immunofluorescence (IFIs) can be adopted⁵.

Antiretroviral treatment (art) decreased the rate of early death and made the disease controllable, its objective is to suppress HIV viral load, restoring the immune function, preventing transmission of the virus and consequently increasing the resistance of the organism in the fight against the disease⁶. The main barrier method indicated by health professionals is condoms, which play a prominent role in the prevention of sexually transmitted infections (STI's) and AIDS. Preventive care is aimed at reducing vulnerability and increasing the quality of life of the individual seeking a

healthier life⁷.

The author Fernandes et al reports that the patient with HIV may present a deficiency in self-care, caused by low self-esteem, which is considered worrying by the health team, since the lack of basic personal care may contribute to the patient's low immunity, providing the manifestation of opportunistic diseases⁸.

For patients with HIV who are hospitalized, the hospital environment increases the feeling of rejection, isolation and fear, requiring the multiprofessional team to pay greater attention to the non-occurrence of depression, since the acceptance period is considered the most difficult process for AIDS patients, as there is the people's prejudice in relation to contact with this individual, thus making their social life difficult⁹.

It is important that the healthcare professional informs the patient of the care to be taken, the forms of transmission and the symptoms considered severe. Social co-existence and family support play an important role in increasing the quality of life of the patient and his or her adherence to the treatment. Hence the need for people who live with the virus carrier to understand that the same does not spread the disease by physical contact, only when there is contact with contaminated secretions, this implies that simple acts like embrace, handshake and sitting close to a HIV/AIDS carrier does not cause contamination^{5,9}.

In view of these considerations and knowing that in 2016, 1.8 million people worldwide were infected with HIV (UNAIDS, 2017)¹⁰ gaps were observed regarding prevention, treatment and knowledge about various pathologies, including HIV/Aids.

During health promotion activities carried out with students from the Federal University of Amapá of the Binational Campus of Oiapoque, interest arose in verifying who the population was, how they were contaminated and how people with HIV lived in the municipality, therefore, this study aimed to identify the epidemiological profile of reported cases of HIV/Aids in the city of Oiapoque.

2 Material and Methods

This is a descriptive, retrospective, documentary study with a quantitative approach, through the analysis of epidemiological data from the city of Oiapoque supplied by the database of the Information System of Disease Notification (SINAN) of the Municipal Health Secretariat (SMSA), from 2014 to 2016.

The municipality of Oiapoque in Amapá (Brazil) is situated 590 km from the capital of the state of Amapá, the city of Macapá and 200 km from the capital of French Guiana, Cayene city. Oiapoque has as main sources of income the gold mining, fishing, tourism and indigenous crafts. It has an estimated population of 20.059 inhabitants¹¹ mostly male (11.010), it is possible to perceive social problems in the

region, such as alcoholism and prostitution, especially in the underage population, due to lack of formal employment^{2,12}.

According to Peiter¹², the increase in the presence of floating people, such as gold miners, prostitutes and people from other regions of Brazil, aggravates the vulnerability to AIDS infection in Oiapoque region.

The border regions present great difficulties in health services, and the increase in trafficking and precarious infrastructure can be considered as a factor of vulnerability for the dissemination of HIV/AIDS in this locality. AIDS epidemic on the Brazilian border is a complex problem due to exposure to illegal iniquities, violence and practices.

All HIV-related (positive) information from the Information System of Disease Notification (SINAN) database was used to collect data, with the support of the local notification sector, Such as the Health Department of the Municipality of Oiapoque and the Municipal Reference Service.

All cases reported with HIV/AIDS in the city of Oiapoque, in the period from 2014 to 2016, of both sexes, of any age and municipality of origin were included in the study.

The cases reported with HIV in the city of Oiapoque - Amapá in the period prior to 2014 and those notified that did not contain the information required for this research, recorded in the database, were excluded from the study. The study was approved by the Ethics and Research Committee of the Federal University of Amapá under the number CAAE 69870317.6.0000.0003.

3 Results and Discussion

From 2014 to 2016 in the state of Amapá, 547 cases of AIDS registered in SINAN were reported, with 40% (219) of the cases in 2016. In the city of Oiapoque, 27 cases of HIV were reported, 18.5% (05) in 2014, 26.0% (07) in 2015 and 55.0% (15) in 2016. The number of cases represented 5% of the cases reported in the State (Table 1).

Table 1 - Total reported cases of HIV from 2014 to 2016 in Amapá State and Oiapoque Municipality, 2017

Variable	2014		2015		2016		Total
	N	%	N	%	N	%	N
State Amapá	188	34	140	26	219	40	547
Municipality Oiapoque	05	18.5	07	26.0	15	55.5	27

Source: Research data.

According to Freire et al.¹³, AIDS causes several consequences in the life of the disease carriers, especially those related to the concept of the individual's identity, since society, through various forms of categorization, ends up assigning characteristics that often become stigmata, and can bring suffering to people, especially when this categorization is related to negative or pejorative attributes.

To better understand the distribution of AIDS cases, the Ministry of Health makes the division by Brazilian states.

The state of Amapá presented a high incidence of cases of the disease in the period from 2006 to 2016, representing 105.7% of the total number of AIDS cases in the period analyzed, the year 2016 presented an increase in relation to the disease records, with a rate of 28 cases per 100 thousand inhabitants⁴.

The data indicated that 2014, was the period that presented the lowest incidence of cases, with only five notifications (2.12 cases/10.000 inhabitants) of cases throughout the year. In the year 2016, there was a trigger in relation to previous years, with the notification of 15 HIV cases with a rate of 6.03/10.000 inhabitants in the city of Oiapoque, as shown in Table 2.

Table 2 – Notified cases and Incidence rate in the period from 2014 to 2016 in the total population of the Municipality of Oiapoque, 2017

Variable	Year		
	2014	2015	2016
Population	23629	24262	24892
Cases	5	7	15
Incidence rate*	2.12	2.89	6.03

* Cases per 10 thousand inhabitants.

Source: Research data.

AIDS currently in the North region has a linear trend in the number of cases, with endemic characteristics similar to the decade of 1980, being accentuated by late diagnosis and high frequency of opportunistic infections due to non-adherence to treatment, this factor is accentuated by the typical vulnerability of the region¹⁴.

A health care organization focused on the AIDS prevention and control is needed, in view of the fact that the implementation of HIV virus control program is in limited process in the region, where quality, quantity and access to health services are factors that predispose the increasing number of the pathology in northern Brazil².

Table 3 shows the number of HIV-infected individuals according to age. The ages that presented the most notifications were 30 to 39 years with 8 notified cases, which represented 30% of the population analyzed and between 40 and 49 years, corresponding to 18% (5) of the infected individuals (Table 3).

Table 3 - Age of individuals diagnosed with HIV from 2014 to 2016 in the city of Oiapoque, 2017

Variable	Age	
	N	%
18 to 20 years old	03	11%
20 to 29 years	06	22%
30 to 39 years	08	30%
40 to 49 years	05	18%
50 to 59 years	04	15%
60 years or more	01	4%
Total	27	100%

Source: Research data.

It is possible to realize that most of the reported cases are among the age group of young adults, a public that is sexually

active in life. However, it is important to emphasize that age is not the main factor for HIV infection, since the disease can affect any individual who practices unprotected sexual activity or in contact with contaminated blood.

The incidence rate in children under five years of age in the city of Oiapoque, in the period from 2014 to 2016, was represented by only one case notified in 2015, with an incidence rate of 3.21 cases/10.000inhabitants. The North region showed a slight decline in AIDS cases in children under five years of age, reducing from 16.7% to 4.2 in 2006 and 3.5 cases/100 inhabitants in 2016.

The precarious health conditions and the low economic income of the region are also highlighted as points that may reflect the increase in cases of the disease, a decentralization of health services would then be necessary in order to improve the incidence rate and, consequently, reduce the HIV cases in this region.

The AIDS interiorization process is the result of an expansion in the disease epidemic of large urban centers to medium and small municipalities in the interior of the country¹⁵. The furthest regions from the metropolis do not have adequate structures for the control of the pathology, and lack of health professionals and equipment in this locality increase the risks in the dissemination of the disease¹⁴.

The rate of AIDS detection in children under five years has been used as a mechanism for monitoring vertical HIV transmission, called a *proxy indicator*⁴.

Of the 27 cases of HIV reported, 59% (16) of the cases were male and 41% (11) were female. It is observed that over time there was a reversal of the case record, since at the beginning of the period there were more cases in the male sex, suffering an important inversion in 2016, when the number of female individuals exceeded the male sex (Chart 4).

Table 4 - Number of HIV cases reported according to sex in the period 2014 to 2016, in Oiapoque municipality, 2017

Variable	Year							
	2014		2015		2016		Total	
	N	%	N	%	N	%	N	%
Male	3	19	6	37	7	44	16	59
Female	2	18	1	9	8	73	11	41

Source: Research data.

Brazil has shown a fall in the last ten years in relation to reported cases of less than five years infected with the disease, and is considered a satisfactory fact, since this generates a good reflection in prenatal care offered to pregnant women in the health units of the country.

Issues related to feminization of aids are generally related to stability in the relationship, difficulty in negotiations on condom use with the partner, due to female submission. It is emphasized that female submission is a consequence of unequal gender relations, portrayed by an oppressed woman with limited power in affective-sexual relationships¹⁶.

HIV notification in pregnant women in the city of

Oiapoque-AP occurred only in 2016, with one case registered. This information shows that pregnant women in the municipality of Oiapoque may have a low incidence in cases of HIV infection. The fact is considered satisfactory in the 27 cases reported in the period. A large portion of the diagnosis of cases of antiretroviral infection in women at gestational age is a reflection of the health care policy implemented in the basic health care units, through anti-HIV serologic screening¹⁷.

Women must routinely conduct aids prevention tests, since the earlier the disease is detected, the better the chances of treatment. The decrease in viral load is a primary factor for the inhibition of mother-to-child transmission of the disease.

According to Lucena et al¹⁸, the rate of transmission is less than 1% in pregnant women using antiretroviral drugs that cultivate a viral load below 1.000 copies/ml.

It is important to point out that, although there is a fluctuation in the incidence between males and females, this increase in cases in females is worrying, since it indicates the occurrence of unprotected sex with HIV-positive partners. On the other hand, underreporting may be occurring for females in previous years, as well as for males in the last year. The declared pardo race represented 77% (20) of the cases followed by 15% (4) considered black, 4% (1) said to be white, 4% (1) indigenous and 4% (1) did not respond (Table 5).

Table 5 - Demographic characteristics of HIV cases notified in the period from 2014 to 2016 in the city of Oiapoque, 2017

Variable	Year							
	2014		2015		2016		Total	
	N	%	N	%	N	%	N	%
Color/Race								
White	-	-	1	4	-	-	1	4
Pardo	4	15	4	15	12	44.5	20	77
Indian	-	-	-	-	1	4	1	4
Black	-	-	2	7.5	2	7.5	4	15
Ignored	-	-	-	-	1	4	1	4
Schooling								
Illiterate	-	-	1	4%	2	7%	3	11%
1 st to 4 th degrees of elementary school incomplete	1	4%	2	7%	2	7%	5	18%
4 th Degree	-	-	-	-	1	4%	1	4%
5 th to 8 th Degree of elementary school Incomplete	-	-	2	7%	3	11%	5	18%
Complete elementary school	-	-	1	4%	2	7%	3	11%
High School Incomplete	-	-	-	-	2	7%	2	7%
High School Complete	-	-	-	-	3	11%	3	11%
Upper Education Incomplete	1	4%	-	-	-	-	1	4%
Ignored	3	11%	1	4%	-	-	4	15%
Not applied	-	-	-	-	1	3%	1	3%
Occupation								
Gold Mining	1	4%	1	4%	3	11%	5	18.5%
Sex Professionals	-	-	1	4%	-	-	1	4%
Student	-	-	1	4%	-	-	1	4%
Housewife	-	-	-	-	1	4%	1	4%
Ignored	2	7%	6	22%	10	37%	18	67%

Source: Research data.

It should be noted that there is no study showing any relationship with the reported race of HIV carriers, since the virus can contaminate people of any race. The fact that the pardo and black race in the North region is more prevalent is the result of miscegenation in this locality.

The level of the individual's intellect plays a fundamental role in the risks of contagion with the disease, since it tends to diminish the understanding and adoption of preventive practices. The relationships of inequalities of power and economic independence limit access to adequate and up-to-date information and consequently lead to more chances of contamination with the HIV virus¹⁶.

The level of education has been shown to be an important factor for the success of treatment, because the greater the

schooling, the greater the understanding of information regarding HIV and health care. Patients with incomplete elementary school education are highly likely not to perform therapy properly compared to those with complete elementary school education¹⁹.

In this group of individuals, it was possible to perceive a high incidence of cases in people with low schooling: 5 (18%) had a school level of 1st a 4th incomplete degree and 5 (18%) of the cases reported 5th to 8th degree incomplete, as shown in Table .

Table 5 shows the number of individuals infected with the virus according to the occupation category, where it was possible to realize that gold mining was distinguished among the occupations, with 18.5% (5), because it is the main income

means of the population of Oiapoque. And, contrary to what is expected, the incidence among sex workers was equal to that of other occupations.

The mining environments do not always present adequate structures for health monitoring, another aggravating factor is the low level of education of this target public, since most prospectors do not have the 4th degree complete, which makes it difficult to know about the means of AIDS prevention.

They point out that the lack of orientation in this public regarding HIV/AIDS prevention and the lack of health care in these localities are notable². There is evidence that living and working conditions in the gold mining make its residents vulnerable to the action of chemical, physical, mechanical, biological, ergonomic and psychosocial agents, with effects on the health of the miners, highlighting violence, malaria, STI's/AIDS and dependence on various types of drugs²⁰.

4 Conclusion

The municipality of Oiapoque, as a frontier region, has great difficulties in health services and the low infrastructure ally is a factor of vulnerability for the dissemination of HIV/AIDS in this locality.

The increase in the number of HIV reporting on the Brazilian border with French Guiana is a complex problem due to exposure to illegal iniquities, violence and practices in the region. In this context, the primary health sector deserves more specialized attention, since through this sector it is possible to considerably reduce the main health problems affecting the population.

Preventive actions should be extended to the whole community of Oiapoque, highlighting health actions in school, with the aim of educating the young population about the importance of prevention.

The information provided by epidemiological surveillance also shows the need to improve the health system of this municipality, for better data accuracy.

Many studies still need to be carried out in this municipality in relation to STIs⁷, considering that many of these diseases facilitate HIV/AIDS infection. In view of this, it is necessary to have continuous education programs for the population with the purpose of providing information on HIV virus prevention and other STIs, and to offer those affected by the disease a better quality of life, seeking to understand their difficulties and ways of integrating into society.

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