

ANALYSIS OF HIV/AIDS NOTIFICATIONS IN A MUNICIPALITY OF NATIONAL HEALTH BETWEEN 2007 AND 2017: GENDER, AGE, RACE, SCHOOLING, NEIGHBORHOOD OF ORIGIN, NOTIFYING UNITS AND TREATMENT UNITS

ANÁLISE DE NOTIFICAÇÕES DE HIV/AIDS EM UM MUNICÍPIO POLO DE SAÚDE NACIONAL ENTRE 2007 E 2017: SEXO, IDADE, RAÇA, ESCOLARIDADE, BAIRRO DE ORIGEM, UNIDADES NOTIFICADORAS E UNIDADES DE TRATAMENTO

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ABSTRACT

Introduction: Both human immunodeficiency virus (HIV) infection and acquired immunodeficiency syndrome (AIDS) are part of the National List of Compulsory Notification of Diseases. Despite the compulsory reporting of HIV infection from 2014, there has been a drop in the detection of new cases in the last five years. **Objective:** Analyze the epidemiological data of HIV/AIDS case reports in the city of Passo Fundo, Rio Grande do Sul, from 2007 to 2017 in relation to gender, neighborhoods, notifying units and treatment units. **Methods:** Retrospective descriptive study, accomplished at the Health Surveillance Sector from the compulsory notifications available in the Information System of Notifiable Diseases (*Sistema de Informação de Agravos de Notificação* – SINAN). A spreadsheet was made in the Microsoft Excel® Program (2016). Data were analyzed using the SPSS® Program, descriptively through measures of prevalence, incidence and distribution. **Results:** There were 1,068 notifications. There was a predominance of males (55.5%) and in the age group from 27 to 43 years. Of the 31 notifying health units, three concentrated 95% of the cases: Specialized Care Service (74.7%); Hospital São Vicente de Paulo (16%); and Hospital das Clínicas of Passo Fundo (4%). The same three units concentrated 98.0% of the treatments: 88, 9 and 1%, respectively. The primary care accounted for 5.0% of the notifications. **Conclusion:** The higher prevalence in young adult men denotes the importance of prevention aimed at this audience. Notifications were mostly from hospitals and a public referral center, with little involvement of primary care in reporting HIV/AIDS.

Keywords: acquired immunodeficiency syndrome; HIV; disease notification.

RESUMO

Introdução: Tanto a infecção pelo vírus da imunodeficiência humana (HIV) quanto a síndrome da imunodeficiência adquirida (AIDS) fazem parte da Lista Nacional de Notificação Compulsória de doenças. Apesar da compulsoriedade da notificação pela infecção pelo HIV a partir de 2014, nota-se uma queda na detecção de novos casos nos últimos cinco anos. **Objetivo:** Analisar os dados epidemiológicos das notificações dos casos de HIV/AIDS no município de Passo Fundo, Rio Grande do Sul, entre os anos de 2007 e 2017 em relação ao sexo, bairros, unidades notificadoras e unidades de tratamento. **Métodos:** Estudo documental, descritivo e retrospectivo, realizado no Setor de Vigilância em Saúde a partir das notificações compulsórias disponibilizadas no Sistema de Informação de Agravos de Notificação (SINAN). Foi construída uma planilha no Programa Microsoft Excel® (2016). Os dados foram analisados no Programa SPSS®, de forma descritiva através de medidas de prevalência, incidência e distribuição. **Resultados:** Foram 1.068 notificações. Houve predomínio de indivíduos do sexo masculino (55,5%) e na faixa etária dos 27 aos 43 anos. Das 31 unidades de saúde notificadoras, três concentraram 95% dos casos: Serviço de Atendimento Especializado (74,7%); Hospital São Vicente de Paulo (16%); e Hospital das Clínicas de Passo Fundo (4,0%). As mesmas três unidades concentravam 98,0% dos tratamentos: 88, 9 e 1%, respectivamente. A atenção primária foi responsável por 5% das notificações. **Conclusão:** A maior prevalência em homens adultos jovens denota a importância de prevenção voltada para esse público. As notificações ocorreram majoritariamente por hospitais e um centro público de referência, com pequena participação da atenção básica na notificação do HIV/AIDS.

Palavras-chave: síndrome de imunodeficiência adquirida; HIV; notificação de doenças.

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INTRODUCTION

Acquired immunodeficiency syndrome (AIDS) is an infection caused by the human immunodeficiency virus (HIV). Transmission occurs mostly through intercourse due to fluid exchange between the mucous membranes of the genital or rectal tract. The virus, after transmission, infects host-specific defence cells, CD4 T lymphocytes. From this

infection, it spreads to the local and systemic lymph nodes, following a cascade of events that, without proper treatment, compromises the immune system of the infected⁽¹⁾.

Since the first cases of AIDS, reported in the 1980s by the Center for Disease Control and Prevention (CDC), no effort has been spared to improve understanding of the disease. Much progress has been made with regard to the implementation of public policies capable of early detection, prevention of transmission, and, consequently, reduction of new cases.

According to the Ministry of Health, in Brazil, in 2018, 43,941 new cases of HIV, and 37,161 cases of AIDS were diagnosed. Despite the compulsory notification of HIV infection from 2014, there is a drop in the detection of new cases in the last five years. This fact is possibly related to the implementation of the “treatment for all” at the end of 2013⁽²⁾.

Following this trend, the number of AIDS-related deaths worldwide is the lowest this century, with less than 1 million deaths each year from AIDS-related diseases, thanks to continued access to antiretroviral therapy⁽³⁾.

With regard to Brazilian public health, both HIV infection and AIDS are part of the National List of Compulsory Notification of Diseases, defined by the Ministry of Health. Despite the compulsory notification of HIV infection from 2014, there is a drop in the detection of new cases in the last five years. AIDS has been compulsory in Brazil since 1986, and HIV infection has been known since 2014. Thus, all new cases of infection, symptomatic or not, should be reported to health authorities⁽²⁾.

The realization of HIV/AIDS notification — mandatory for physicians, other health professionals or those responsible for public or private services — is fundamental for the production of epidemiological data and indicators, which allows the identification of possible priority groups, and subsidizes the adequacy of resources for the adoption of preventive and/or treatment measures.

Despite the health and social relevance of the use of information on the behavior of this disease, especially for the formulation of public loco-regional health policies, there is a lack of publications that address the conduct of the disease in rural municipalities in Brazil.

OBJECTIVE

Considering the above, this study aimed to analyse epidemiological data of HIV/AIDS cases notifications in the municipality of Passo Fundo, Rio Grande do Sul, from 2007 to 2017 in relation to gender, neighbourhood, notifying units, and treatment units.

METHODS

This is a retrospective descriptive documentary study, carried out in the Health Surveillance Sector of the Municipal Health Department of Passo Fundo (SMS/PF).

All HIV/AIDS notifications from 2007 to 2017 made available in the Information System of Notifiable Diseases (*Sistema de Informação de Agravos de Notificação* — SINAN) of the Informatics Department of the Unified Health System (DATASUS) were included.

Based on these notifications, a spreadsheet was constructed in the Microsoft Excel Program® (2016), containing the variables gender,

race, age, schooling, notifying health units, health units of treatment, and neighbourhoods of origin.

Subsequently, these data were analysed through descriptive statistics with the help of the Statistical Package for the Social Sciences Program (SPSS)® v. 23, through measures of prevalence, incidence and distribution of notifications according to the type of injury, gender, age and socio-demographic information.

The present study was approved by the Research Ethics Committee of the Universidade de Passo Fundo (Opinion Consubstantiated No. 2,627,373/CAAE No. 83497318.5.0000.5342).

RESULTS

A total of 1,068 HIV/AIDS notifications were recorded in Passo Fundo from 2007 to 2017. A predominance of males was identified (55.5%), and mean age of 35.7 years.

Regarding race, it was found that 81.0% were white (followed by 12.8% browns, 5.4% blacks, 0.2% yellows, 0.2% indigenous people, and 0.4% with ignored race). On the other hand, about education, 40.2% had incomplete elementary school (followed by 18.2% with complete high school, 12.1% with complete elementary school, 7.8% with complete higher education, 6.5% with incomplete high school, 5.4% with incomplete higher education, 0.9% illiterate, and 8.3% with ignored education).

Of the 31 Notifying Health Units of Passo Fundo, three concentrated approximately 95.0% of the cases: Specialized Care Service (SAE); Hospital São Vicente de Paulo (HSVP); and Hospital das Clínicas de Passo Fundo (HCPF) (**Figure 1**). The same three units concentrated 98.0% of the treatments (**Figure 2**).

Basic Health Units (*Unidades Básicas de Saúde* — UBS) accounted for 5% of the notifications. Among the notifying units, the following units registered more than one case in the analysed period: SMS/PF (0.7%); Hospital Municipal de Passo Fundo (HMPF) (0.6%); Hospital Pronto Clínicas (HPC) (0.5%); Epidemiological Surveillance Center (0.3%); Jerônimo Coelho Family Health Strategy (0.2%); Oswaldo Cruz Blood Bank (0.2%); and Hospital Psiquiátrico Bezerra de Menezes (HPBM) (0.2%).

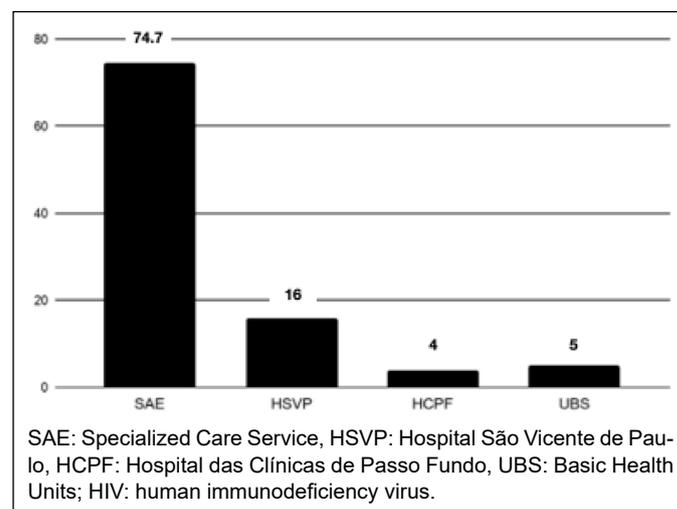


Figure 1 – Percentage of notifications made by Health Units Notifying HIV cases in Passo Fundo, Rio Grande do Sul, from 2007 to 2017.

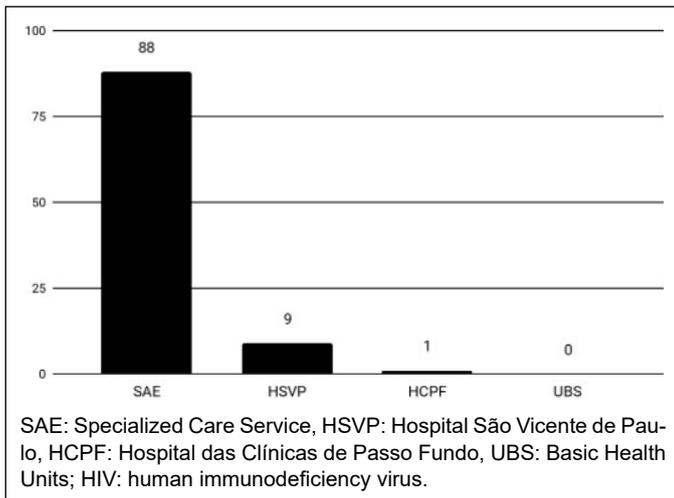


Figure 2 – HIV treatment units in Passo Fundo, Rio Grande do Sul, from 2007 to 2017.

In relation to the neighbourhoods of origin of the reported patients, a relatively homogeneous distribution was observed in the more than 100 neighbourhoods of Passo Fundo, with notifications in up to 90 of them. It was found that 75% of the neighbourhoods had at least one positive case of HIV, with higher concentration in the Centro (14%), Petrópolis (8%) and Vera Cruz (7%).

DISCUSSION

The predominant age group of individuals reported in the present study was from 27 to 43 years, being very similar to that identified in a study conducted in Minas Gerais, which found greater participation between 28 and 45 years, and in a study conducted in Goiás, with a predominance of people between 28.5 and 50.5 years^(4,5).

In line with what was expected by HIV/AIDS chronicity, the study in Minas Gerais showed high rates between 40 and 59 years of age, with one third of the cases⁽⁴⁾. These findings may be related to increased longevity and consequent improvement in quality of life. In addition, the influence of technological advances in health, with the use of hormone replacement therapy and the use of drugs for the treatment of sexual impotence, for example, which provided changes in the sexual behavior of the population in this age group without adequate sexual education is emphasized⁽⁶⁾. Moreover, it is known that the phenomenon of aging of the population with HIV is a consequence of the therapeutic advances that have enabled HIV to become a chronic disease.

On the other hand, the study in the Goiás State points to the probable phenomenon of the internalization and pauperization of HIV/AIDS in Brazil, which implies a change in the incidence of transmission from metropolises to the interior of the States, and in a population with a lower educational and socioeconomic level⁽⁵⁾.

In the present study, which corresponds to a population in the interior of the State of Rio Grande do Sul, 55.1% of the cases occurred between 20 and 40 years, and only 3.1% of the cases were of men over 60 years of age. This finding corroborates the hypothesis of internalization and pauperization, since there was a significant

portion of the notifications (>50%) corresponding to individuals up to 40 years, added a low number of cases in the elderly.

The study conducted in Minas Gerais observed a predominance of males in the notifications (67.8%), with a higher percentage than the present study (55.5%). This higher prevalence of male notifications was also found by the Goiás study, in which 57.9% of the cases occurred in men^(4,5).

The predominance of adult men in the notifications of this study corroborates the findings of studies that point to an increase in cases among men who have sex with men (MSM). In a study conducted in a reference center (n=153), it was observed that 31.37% of the male sample were MSM, 56.21% were heterosexual, and in 12.42% there was no available information⁽⁷⁾. Although the majority of the infection occurs among heterosexuals, transmission between MSM has been highlighted as increasing transmission, especially in richer countries. In this sense, it was pointed out that there may be a phenomenon of HIV resurgence in this population^(4,5,8).

These aspects illustrate the importance of knowing the geographical distribution and age group of HIV/AIDS in a country of continental dimensions, since it allows health authorities to make the most assertive decisions for planning interventions, optimizing resources and promoting quality of life for individuals affected by the disease.

The findings of this research showed a concentration of seropositive care in a medium-sized municipality in the interior of the country — an aspect that deserves to be investigated in other locations with the same geographic and population profile.

First, it was found important centralization of notifications in three health services in the city. The SAE, a public care unit focused on HIV and sexually transmitted infections, had 75% of the notifications. The two largest hospitals in the city were also important, presenting, respectively, 16 and 4% of communications. Only 5% of the notifications occurred in the UBS.

It can be inferred that primary health care services and professionals are having little participation in HIV notifications. This is a fact that contrasts the prerogatives of primary care as a privileged space for the accomplishment of most prevention, screening and syndromic diagnoses.

It is also assumed that primary care services have low rates of diagnosis of the disease and/or that they are referring users to specialized centres without having previously completed the compulsory notification. This, in turn, may be related to the centralization of the management and treatment of patients in the SAE, which would induce the basic units to delegate the task of notification.

This logic is especially harmful for the adoption of preventive public health measures, which could be planned based on information on the geographical distribution of the disease in the city. It is known that underreporting may compromise the correct distribution of antiretroviral drugs and the focus of public policies to vulnerable populations⁽⁴⁾.

Secondly, when analysing the sites of treatment of the disease, an even greater centralization was identified. Most cases are managed by the SAE (88%). In this scenario, the finding is positive, and meets the expectation that the organization of care of these patients in specialized centres is the objective of public policies, with an experienced health team, a local pharmacy for the distribution of medications, and control of adherence to treatment and transmission of the virus.

However, it is assumed that the number of patients treated in the HSVP is still high (9%), despite this being a hospital of regional coverage, which points both to centralization and to the excessive referral of patients. However, if these individuals are correctly redirected to SAE after hospital treatment, it is suspected that the notifications remain outdated.

Another important point observed in this study was the distribution of HIV cases in neighbourhoods, since 75% of them had at least one reported case, demonstrating wide and relatively homogeneous dissemination of the disease in the city.

Three neighbourhoods had a higher percentage of notifications, including the Centro (14%), Petrópolis (8%) and Vera Cruz (7%). It is believed that these higher numbers are related to the number of residents in these localities (which are among the largest neighbourhoods in the municipality).

The decentralization of HIV screening tests to UBS seems to be a good public health strategy, especially since many testing centres are stigmatized as sites of HIV-positive patients — driving a portion of the population away from these procedures. Even so, there is still a need for greater adherence of the UBS with regard to the completion of compulsory notifications.

It is worth mentioning that in 2014 the Minister of Health included HIV infection as compulsory notification, a fact that brought changes in the epidemiological profile of notifications and may have affected the final results of this study. AIDS notifications and criteria, for example, have lost space in the general overview of notifications in favor of the growth of HIV infection notifications⁽⁴⁾.

In the meantime, it is emphasized that the strategy of reporting HIV cases identified by screening, mandatory since then, has shown good adherence, indicating success of the government measure in this segment of patients⁽⁴⁾.

This study has as strengths the expressive number of notifications analysed (1,068 cases) and the description of data in a locality in the interior of the State of Rio Grande do Sul. The lack of data from non-metropolitan cities on the profile of HIV in Brazil has been described in the literature⁽⁵⁾.

It is also noteworthy that the findings of this research point to the high incidence of the disease in young men and adults, in addition to the problem of low rates of notification by primary care. This diagnosis can support the proposition of health interventions and the organization of the health care network in the municipality.

This study has as main limitation the fact that the notifications analysed are restricted to those of the Epidemiological Surveillance Service of the municipality of Passo Fundo, making it impossible to extrapolate the findings. Another aspect to be mentioned is that the data of the compulsory notification form, which appears as an official source of information for health authorities and researchers, is susceptible to errors in filling and low adherence of the professionals themselves.

Future challenges in combating the HIV epidemic include broad access to diagnostic testing and elimination of discrimination. It is known that prejudice towards HIV-positive users still remains an important obstacle to access diagnosis and treatment in the Unified Health System (*Sistema Único de Saúde* — SUS). In a study conducted in the city of Araçatuba, 23% of users of the public system

stated they would not accept to be seen after an HIV-positive patient, and 42% stated they preferred to be seen before an HIV-positive patient. This reaffirms the rooting of discrimination in society^(4,9).

As pointed out in this study, although the incidence of HIV infection in the elderly population is lower than in other age groups, it is important to emphasize that, often, the possibility of infection is not considered by health professionals, both because of the lack of information on AIDS in the elderly and because of the non-prioritization of this focus of approach in the health system. Considering that these aspects are related to professional training and updating⁽¹⁰⁾, it is essential that changes in health education are implemented.

Finally, in view of the results of this study, permanent education measures are suggested for primary health professionals, in order to promote greater adherence to this level of care in notifications; strengthening HIV/AIDS prevention actions, especially in the young and adult male population; and the realization of strategic planning processes in the face of possible phenomena of aging and chronicity of HIV, as well as the internalization and pauperization of the disease in municipalities of different sizes in Brazil.

CONCLUSION

The higher prevalence in adult-young men denotes the importance of prevention aimed at this public. The notifications occurred mainly by hospitals and a public reference centre, with little participation of primary care in the notification of HIV/AIDS.

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Participation of each author

Research conception and design: RAS, AAA, MHBL, AVCR, APG, LCKG, LP, DAL. Interpretation of data and elaboration of the article: RAS, AAA, MHBL, AVCR, APG, JBT, LCKG. Critical revision of the preliminary version: RAS, LP, DAL. Final approval of the version to be published: RAS, AAA, MHBL, AVCR, APG, JBT, LCKG, LP, DAL. Agreement to be accountable for all aspects of work: RAS, AAA, MHBL, AVCR, APG, JBT, LCKG, LP, DAL.

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Conflict of interests

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