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## Incidence of HIV/AIDS cases in Brazil from 2015 to 2017 according to sexual orientation

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**Abstract:** Acquired Immunodeficiency Syndrome (AIDS) is a disease caused by human immunodeficiency virus (HIV) infection. Despite the diversity observed today in the general population, studies indicate large groups of vulnerability within this global

epidemic, such as the population of men who have sex with men, sex workers and the population deprived of liberty. The infection represents one of the biggest public health problems in the world. The aim of this study was to describe the incidence of HIV/AIDS cases in Brazil from 2015 to 2017 according to sexual orientation. The method of work occurred through the analysis of the database of the Notifiable Diseases Information System (SINAN), the reports of AIDS notification in Brazil were evaluated, from 2015 to 2017, provided by DATASUS/Ministry of Health. The results showed that the highest incidence was in heterosexuals, totaling: n=12,973 cases reported in 2015; n=11,163 in 2016 and n=4,135 in 2017. The highest incidence of HIV/AIDS cases in Brazil from 2015 to 2017 according to sexual orientation was in heterosexuals.

**Keywords:** HIV prevalence serum. AIDS. Gender identity. Sexism

## 1. Introduction

The acquired immunodeficiency virus (HIV/AIDS) destroys the natural defense mechanisms of the human body, allowing the most varied diseases to be installed in it, constituting acquired immunodeficiency syndrome (AIDS). Over the years, HIV infection has been transformed both in terms of clinical evolution and the epidemiological profile of infected people (MOURA *et al.*, 2017).

Despite the diversity observed today in the general population, studies indicate large groups of vulnerability within this global epidemic, such as the population of men who have sex with men, sex workers and the population deprived of liberty, segments that are almost always marginalized among societies (OLIVEIRA *et al.*, 2017).

Dated June 5, 1981, when the Center for Disease Control (CDC) published an article describing an outbreak of Pneumonia and Kaposi's sarcoma in young homosexuals, AIDS hit, in its early days, basically the gay population and other minority groups, such as (Haitians, hemophiliacs, injectable heroin users and prostitutes). However, even before the discovery of the pathogen, the new disease was called The Gay Plague. In the early years of the epidemic, no one contracted HIV, contracted homosexuality (SANTOS; SCHOR, 2015).

HIV infection, which causes acquired immunodeficiency syndrome (AIDS), represents one of the major public health problems in the world. The report published by the United Nations Joint Program on HIV/AIDS (UNAIDS) showed that at the end of 2015 approximately 36.7 million people lived with HIV worldwide. In Brazil, estimates showed that from the beginning of the epidemic until 2016 more than 842,000 people infected with the virus were recorded (CABRAL *et al.*, 2018).

Since the late 2000s, emphasis has been gained, according to the guidance of the United Nations Joint Program on HIV/AIDS, the concentrated nature of the HIV/AIDS epidemic in Brazil. Although the largest number of AIDS cases occur in the so-called general population, some groups are disproportionately affected by this epidemic, such as: gays and other men who have sex with men (MSM), Injecting Drug Users (IU) and female sex workers (PS). However, this recognition in the public sphere did not take place without tension, and there was resistance on the part of the government (CALANZAS *et al.*, 2018).

The first people who contracted HIV in the 1980s had

symptoms including severe pneumonia, Kaposi's sarcoma (rare form of cancer), sudden weight loss, lymphadenopathy, and general decrease in immune function. This set of signs and symptoms associated with the disease led to the conclusion that it was a disease, not yet classified, of infectious and transmissible etiology (ABREU *et al.*, 2016).

The present study is necessary due to the high number of cases due to HIV infection, considered one of the major public health problems in Brazil. And by the prevalence of the disease in bisexuals and homosexuals, who since the beginning of the epidemic suffer prejudices and are a portion of society very neglected to the present day. The aim of this research was to describe the sexual orientation of HIV/AIDS carriers.

## 2. Methodology

This is a comparative epidemiological study of the descriptive type of cross-sectional cohort, whose data were collected through the secondary database of the Notifiable Diseases Information System (SINAN), provided by DATASUS/Ministry of Health. The population consisted of the records in the notification forms for the disease "AIDS" in the SINAN Database, in Brazil, from 2015 to 2017. The Informatics Department of the Unified Health System (DATASUS) provides information that can serve to support objective analyses of the health situation, evidence-based decision-making and the development of health action programs.

The tabulation of the data in the Department of Informatics of the Unified Health System (DATASUS) was carried out through SINAN, which is fed by the notification and investigation of cases of diseases and injuries that are included in the national list of diseases of compulsory notification, including AIDS, which is the aim of the study. The variables studied in the AIDS database were: Category Exp. Hierarchy, period, sex and quantity of affected people reported for HIV/AIDS.

In the category Variable Exp. Hierar. we found data regarding the sexual orientation of AIDS patients, who were homosexual, bisexual and heterosexual.

In the variable period we found the cases of AIDS identified in Brazil in those years, which were the years 2015, 2016 and 2017. In the gender variable, we saw the numbers in males and females in each of the three orientations studied and in the three years analyzed.

### 3. Results and Discussion

A total of n= 43,155 cases of AIDS reported in Brazil was observed in homosexuals, heterosexuals and bisexuals from 2015 to 2017. Prevalence in men regardless of their sexual orientation. And the data confirm that the highest incidence of cases was in heterosexuals, with the highest number of cases reported in 2015.

The highest incidence was in men; there has been a decrease in the number of cases over the years; second highest incidence in the total number of cases; higher prevalence.

**Table 1.** Ranking of the number of reported from 2015 to 2017, homosexuals, describing the male or female.

Sexual orientation	Year	Number of reported cases	Men	Women
Homosexuals	2015	5.314	5.203	111
Homosexuals	2016	4.833	4.734	99
Homosexuals	2017	1.867	1.837	30
<b>Total</b>		12.014	11.774	240

Source: Ministry of Health/SVS - Notifiable Diseases Information System - SINAN Net. Accessed: 12/04/2019.

Men were the most affected; reduction of cases over time; a smaller number of women affected compared to homosexuals and heterosexuals; incidence in the total number of cases.

**Table 2.** Ranking of the number of reported from 2015 to 2017, bisexual, describing the male or female.

Sexual orientation	Year	Number of reported cases	Men	Women
Bisexual	2015	1.283	1.237	46
Bisexual	2016	1.130	1.072	58
Bisexual	2017	457	442	25
<b>Total</b>		2.870		

Source: Ministry of Health/SVS - Notifiable Diseases Information System - SINAN Net. Accessed: 12/04/2019

Higher incidence compared to homosexuals and bisexuals; prevalence of incidence in men; there was a decrease in cases over time; incidence of women compared to homosexuals and bisexuals.

**Table 3.** Ranking of the number of reported from 2015 to 2017, heterosexual, describing the male or female.

Sexual orientation	Year	Number of reported cases	Men	Women
Heterosexual	2015	12.937	6.805	6.168

Heterosexual	2016	11.163	5.945	5.218
Heterosexual	2017	4.135	2.253	1.882

Source: Ministry of Health/SVS - Notifiable Diseases Information System - SINAN Net. Accessed: 12/04/2019

The acquired immunodeficiency virus (HIV) nullifies the natural defense mechanisms of the human body and allows several diseases to settle, thus generating acquired immunodeficiency syndrome (AIDS). Over the years, HIV infection has undergone transformations both in terms of clinical evolution and the epidemiological profile of infected people. In Brazil, AIDS is a relevant public health problem that affects different segments of the population and affects several regions according to the data observed in the study (Moura *et al.*, 2017).

Moura; Farias, (2017) distinguishes the AIDS epidemic in Brazil in three distinct phases. The first was characterized only by HIV-infected homosexual men with a high level of education. The second phase, marked by the large number of contaminations by injecting drug use, this phase reached a greater number of heterosexuals. The third and current phase is characterized by the continued increase in the number of heterosexuals that was aggravated by the increase in cases in females, of people with low schooling and by the internalization of AIDS. Santos *et al.*, (2015) explains that these transformations generated the visibility of different identities, and brought the male and female role to social debate, especially in the 1980s and 1990s, with the expansion of AIDS.

Oliveira *et al.*, (2017) conducted a study in which (n=146) people living with HIV/AIDS, 63.7% were men, with a mean age of 38 years, a result that confirms our study where males are ahead in cases by incidence, whether homosexual, bisexual or heterosexual.

Cabral *et al.*, (2018) showed in their study that HIV prevalence was observed in females, showed that females have a higher representativeness and that it is consistent with the current epidemiological trend of the disease in the country. This study disagrees with our current one, where our prevalence rate was higher for the male group according to SINAN data.

In the study by Brito; Castilho & Szwarcwald, 2001, showed that HIV/AIDS numbers in the population of young men who have sex with men (MSM) remain stabilized at high levels. Nodin *et al.*, (2015) also found that gay men had the highest levels of testing for the virus. Which goes according to our results, where Men who have Sex with Other Men (MSM) being bisexual or homosexual have a very high number of AIDS cases, but with even lower numbers than heterosexual men in the period 2015 to 2017.

In the research of the databases and in articles we can see that women have very low levels of cases compared to men even in the homosexual and bisexual categories. However, it was observed in the study by Oliveira *et al.*, (2016) that women detected with HIV, especially women who have sex with women (MSM), have some associations for increasing or

decreasing cases dependent on social factors such as: religion and schooling.

The survey between schooling and knowledge about HIV/AIDS prevention and transmission was explained by the increase in the level of education of the majority of the women interviewed. It was seen that women with less schooling are more vulnerable to becoming infected with HIV. Moreover, in the view of religion, the exercise of sexuality is a generational statement that can induce knowledge, attitudes and practices of women who have sex with women (Oliveira *et al.*, 2016).

In our study, data regarding transvestites were not counted, because in the databases they did not present this variable, however, Júnior *et al.*, 2016 conducted a study where he realized that this specific young group is marked by social exclusion, having to undergo a life permeated by prostitution, alcohol and drug use and HIV/AIDS. A group with little education, with social vulnerabilities and health deficiencies that should be recognized and addressed by Brazilian society. On HIV, they concluded that condom use was irregular and knowledge on the subject was sufficient, but permeated by wrong concepts about the forms of transmission.

Rocha *et al.*, (2019) emphasized that the definition of vulnerability is essential to understand the way in which subjects are subjective and have their lives taken care of. They also portray that prejudice and discrimination are reasons that generate suffering and hinder access to health and therefore the ministry of health creates policies and strategies of action to better serve people (Rocha *et al.*, 2019).

Facchini, Pinheiro and Calazans (2018) demonstrated results that are similar to that of our study. Where HIV prevalence rates of 19.8% among MSM aged 25 years or more and 9.4% among those between 18 and 24 years of age indicate; among female sex workers, the prevalence is 5.5%. In the case of MSM, there was an increase of 32.9% in the proportion of AIDS cases among homosexual and bisexual men in the last decade (Facchini *et al.*, 2018).

Men who have sex with other men and gays continue to be the segments that constitute the most significant part of the population vulnerable to the epidemic, which can be confirmed in the study by Simões, 2018, in relation to our results. These categories present a considerably higher risk of infection and illness than the general population (Simões, 2018).

In view of the above, we see the importance that must be in formatting public health strategies, both for improvements in the health of cases already identified and for the prevention of new cases. To develop strategies aimed at improvements in the living conditions of the most affected, those considered vulnerable and at-risk groups.

Who are people who since the beginning of the epidemic, in the 1980s, fight for their space in society, such as feminist groups and the LGBT community, seeking to integrate people with HIV/AIDS into public policies, showing that despite being discriminated against these people can use the medication and have a life considered normal, and the activists and activists representing these groups have always joined for

discussions and later improvements in health services, as well as practices that integrate these people into the space in which they live without any kind of prejudice or revulsion. Methodologies that increase ease and adhering to diagnosis with practicality and speed. Increase the collection of information in relation to this data, since the most recent data found were last updated on 06/30/17.

## 4. Conclusions

Living with HIV/AIDS and being affected by the virus is often independent of sexual orientation. The LGBTQIA+ population in general suffers from several fronts with prejudice. Those affected by the pathology are expected to have a welcoming environment, free from discrimination and/or prejudice, promoting coping with the disease and promoting quality of life and health.

The highest incidence of sexual orientation was in heterosexuals and the highest prevalence by sex was outstanding in their orientation of men. So, as a suggestion, we should focus on public health strategies aimed at prevention with the most affected public.

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