

**Notificações de HIV/Aids no estado de Mato Grosso do Sul evidenciando o município de Campo Grande no período de 2010 a 2015***Notifications of HIV/Aids in the state of Mato Grosso do Sul evidencing the municipality of Campo Grande from 2010 to 2015**Notificaciones de VIH / SIDA en el estado de Mato Grosso do Sul evidenciando el municipio de Campo Grande en el período de 2010 a 2015*Stephanie Valençuela Schmitt<sup>1</sup>, Ursulla Vilella Andrade<sup>1</sup>, Aucely Corrêa Fernandes Chagas<sup>1</sup>

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**ABSTRACT**

**Objective:** To determine the prevalence of notifications of HIV/AIDS in the population of the State of Mato Grosso do Sul, showing only the city of Campo Grande, from 2010 to 2015. **Method:** A descriptive, epidemiological study on quantitative analysis. As a source of data collection there was used for the online platform of the Department of STD, AIDS and Viral Hepatitis of the Secretariat of Health Surveillance. **Results:** We found 3409 notifications in the entire state; however, 1393 notifications occurred in the municipality of Campo Grande within the time under analysis. The adult male heterosexual population in the age range of age above 24 years old presented higher detection rate of aids/HIV. **Conclusion:** These data demonstrate that the epidemic is not regressing neither progressing, and still presents as a frame high rates in heterosexuals, in the white population followed by mixed, both with low level of schooling, showing as the most vulnerable population.

**Keywords:** HIV, AIDS, Disease Notification.

**RESUMO**

**Objetivo:** Conhecer a prevalência das notificações de HIV/AIDS na população do Estado de Mato Grosso do Sul, evidenciando apenas o município de Campo Grande dentro do período de 2010 a 2015. **Método:** Estudo descritivo, epidemiológico, mediante análise quantitativa. Como fonte de coleta de dados foi utilizada a plataforma online do Departamento de DST, AIDS e Hepatites Virais da Secretaria de Vigilância em Saúde. **Resultados:** Foram encontradas 3409 notificações no estado todo, no entanto, 1393 notificações ocorreram no município de Campo Grande dentro período em análise. A população heterossexual masculina adulta, na faixa etária acima de 24 anos apresentou maior taxa de detecção de AIDS/HIV. **Conclusão:** Estes dados demonstram que a epidemia não está regredindo nem progredindo, e ainda apresenta como característica taxas elevadas em heterossexuais, na população branca seguida pela parda, ambas com baixo nível de escolaridade, se mostrando como população mais vulnerável.

**Palavras-Chave:** HIV, AIDS, Notificação de Doenças

**RESUMÉN**

**Objetivo:** Conocer la prevalencia de las notificaciones de VIH / SIDA en la población del Estado de Mato Grosso do Sul, evidenciando apenas el municipio de Campo Grande dentro del período de 2010 a 2015. **Método:** Estudio descriptivo, epidemiológico, mediante análisis cuantitativo. Como fuente de recolección de datos se utilizó la plataforma online del Departamento de ITS, SIDA y Hepatitis Virales de la Secretaría de Vigilancia en Salud. **Resultados:** Se han encontrado 3409 notificaciones en todo el estado, sin embargo, 1393 notificaciones ocurrieron en el municipio de Campo Grande dentro del período en análisis. En la mayoría de los casos, se observó un aumento de la mortalidad por rotavirus en el período de lactancia. en análisis. La población heterosexual masculina adulta, en el grupo de edad de más de 24 años, presentó una tasa de detección de VIH / sida. **Conclusión:** Estos datos demuestran que la epidemia no está retrocediendo ni progresando, y aún presenta como característica tasas elevadas en heterossexuales, en la población blanca seguida por la parda, ambas con bajo nivel de escolaridad, mostrándose como población más vulnerable.

**Palabras clave:** HIV, AIDS, Notificación de Enfermedades.

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## INTRODUCTION

HIV is a virus that the human body cannot heal itself after contact; however, although there is not a safe and effective cure, it is possible to keep control through treatment with antiretroviral therapy or ART; this can significantly extend the lives of people affected by HIV by reducing the possibilities of transmission.<sup>1</sup>

In 1960, in Brazil, with the emergence of contraceptive pills, condoms have fallen into disuse, being only 20 years later with the AIDS epidemic.<sup>2</sup> The first cases occurred in the US, Haiti and Central Africa, in 1977 and 1978, and in 1980 the first case of Brazil, in São Paulo; however, all cases were discovered and defined as Aids in 1982, when there was ranked the new syndrome. Since the beginning of the epidemic up to the year 2010 there were reported 592,914 cases of Aids<sup>3</sup>; the number of people infected with the HIV virus reached approximately half of the expected in Brazil, due to the actions of nature of care and preventive measures taken throughout the Brazilian territory.<sup>4</sup>

The condom, contraceptive method most publicized and known, should be well accepted by the sexually active population, even the young, which does not occur, because teenagers believe that use still surrounded by myths and misconceptions regarding the effectiveness of protection<sup>5 6</sup> corroborating to the high rate of incidence. Because of the way it has spread throughout the world, it is known as an epidemic, a global and dynamic phenomenon, that still, in actuality, represents a serious public health problem.

In 1984 there was the first notification of Aids in the State of Mato Grosso do Sul, and there were 5,401 notifications registered by SINAN - Information System of Reportable Diseases until the period of June 2010. There were identified 1,299 cases not notified in the SINAN by means of a methodology of relationship of data platforms with the systems SIM, SISCEL/SICLON, totaling a sub-record of 19.4%, increasing the number of cases to 6,700 in that time.<sup>7</sup>

Currently, there is the possibility of a subject infected with HIV have a life almost similar to one that has not been infected, if the treatment is started before the progression of the disease, the person may not develop Aids, because to be the bearer of the HIV virus is not synonymous with having Aids.<sup>1</sup>

The present research has the objective to recognize the incidence of notifications of HIV/Aids in the population of the State of Mato Grosso do Sul, highlighting the city of Campo Grande, the capital state. Enabling counter data with studies performed in other two municipalities in different regions of Brazil.

## METHOD

We held an epidemiological, quantitative, descriptive, and cross-sectional study with the aim of characterizing individuals confirmed as positive serum HIV; from the database of the Department of STD, AIDS and Viral Hepatitis of the Secretariat of Health Surveillance, available in the national platform for online access.<sup>8</sup>

In the study there were included all notifications of HIV/Aids in the cities of the

State of Mato Grosso do Sul, between the years 2010 and 2015, because whereas the current period as possible, this is what had the most complete range of updated information.

The collection of data already published in the virtual environment occurred in the in May 2017, contemplating the variables; such as: gender, age, race/color, schooling and exposure category.

Later, the data were organized through the Excel program and made available in the form of graphs for presentation and analysis of the same. It was not necessary to submit to the Ethics Committee, due to the fact that the data used be available for free access in one of the platforms of the Ministry of Health.

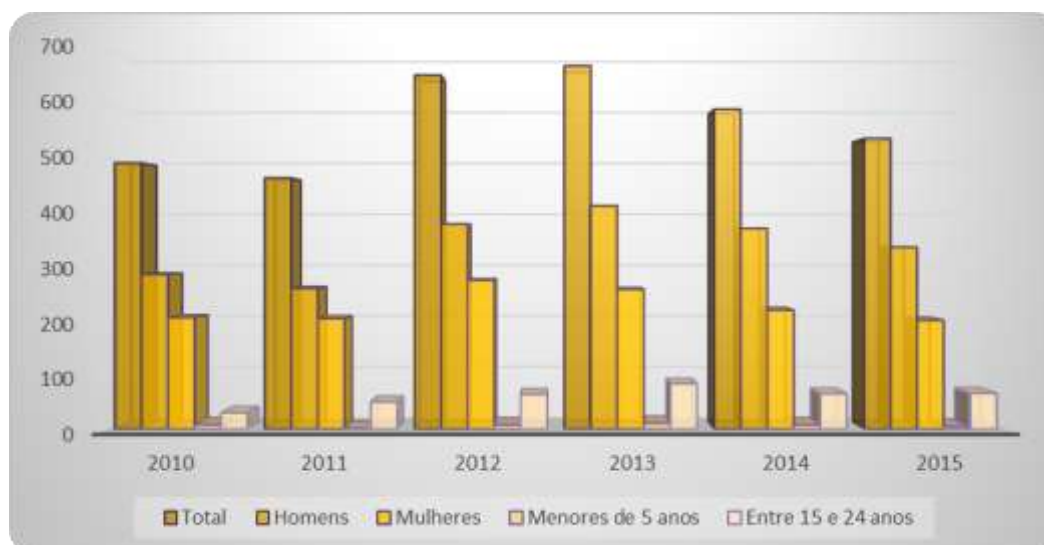
## RESULTS

From the collection of data, it was possible to make a survey aiming to compare Aids cases detected in Brazil, in the Central West region and in the State of Mato Grosso do Sul, totaling

the values of 245,532, 16,939 and 3,409, respectively, in the analyzed period. The Central West region was 7% of the cases detected in Brazil, being approximately 1.5% only in the State of Mato Grosso do Sul. Considering only the Central West region, the State of Mato Grosso do Sul grouped approximately 22% of the regional cases.

When we look at the incidence of Aids cases in the State of Mato Grosso do Sul, we could note that there was a greater number of cases among males when compared to females, being 2045 notifications (54%) for the males and 1364 notifications (36%) for females. In children under 5 years old, there is not a significant number of cases, 41 notifications (1%), already in adolescents and adults between 15 and 24 years of age, there were 359 notifications (9%); however, it is remarkable an increasing number of cases, with a higher incidence in the year 2013, with approximately 660 notifications (17%), as shown in chart 1.

Chart 1 -Cases of HIV/Aids in the State of Mato Grosso do Sul between 2010 and 2015, by year of diagnosis .

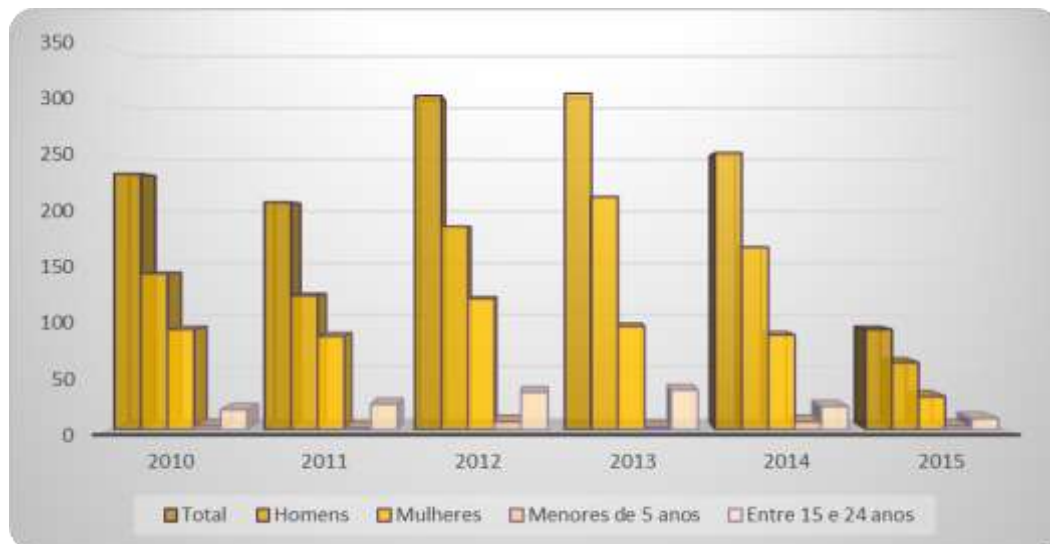


Source: Drawn by the author, through data available on the website of the Secretariat of Health Surveillance.

The capital of the State of Mato Grosso do Sul, municipality of Campo Grande, presented 1558 notifications, distributed in 888

men (57%), 505 women (32%), 23 less than 5 years old (1%) and 142 between 15 and 24 years old (10%), as shown in graph 2.

**Chart 2** -Cases of HIV/Aids in Campo Grande, MS between 2010 and 2015, by year of diagnosis.

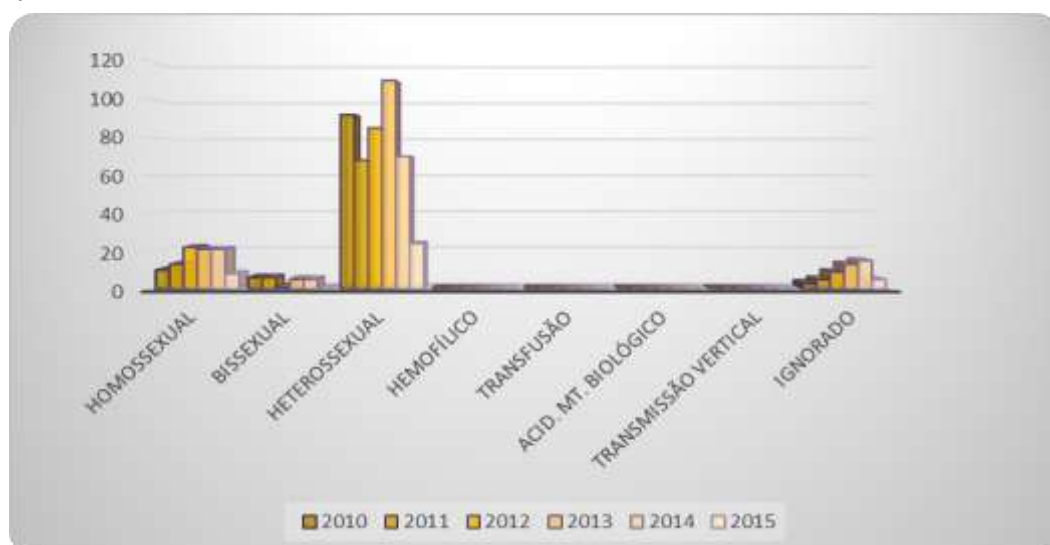


Source: Drawn by the author, through data available on the website of the Secretariat of Health Surveillance.

The subject male adults are those who have a higher prevalence in cases of HIV/Aids in the city of Campo Grande, followed by adults females. The population aged between 15 and

24 years of age have a relatively small amount when compared to men and women, and those younger than 5 years old do not present significant amount of reported cases.

**Chart 3** - HIV/Aids cases in males aged  $\geq 13$  years of age, according to exposure category, by year of diagnosis, in Campo Grande, MS, between 2010 and 2015.



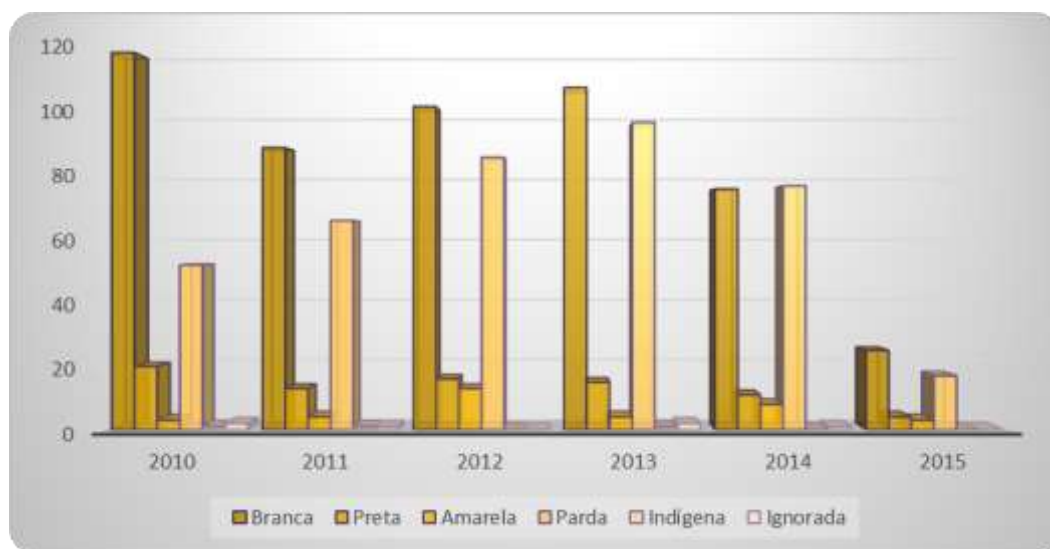
Source: Drawn by the author, through data available on the website of the Secretariat of Health Surveillance.  
Rev Pre Infec e Saúde.2018;4:7185

In accordance with the category of exposure in male individuals from 13 years old and by year of diagnosis, 617 cases were reported, being 449 heterosexuals (73%), 95 homosexuals (15%), 50 ignored (8%) and 23 bisexual (4%). The year 2013 was the time in which there were more notifications, totaling 149 cases (24%) only during the year mentioned,

as pointing in graph 3.

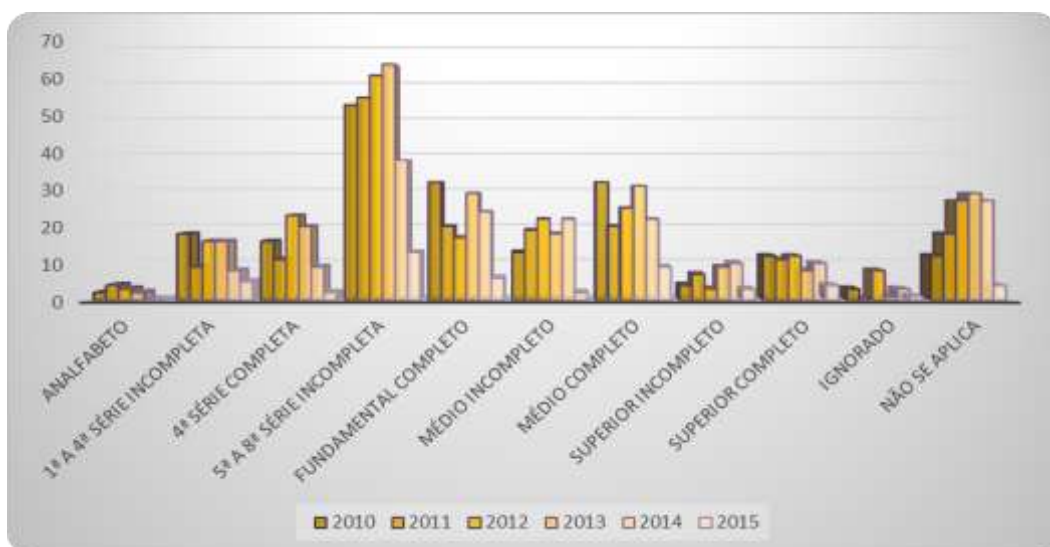
To obtain a better analysis also in the social context, data were collected regarding race and schooling of the population from Campo Grande, thus enabling a holistic vision of the whole population involved in the survey. Follow the values obtained according to race/color:

**Chart 4** -Cases of HIV/Aids according to race/color, by year of diagnosis between 2010 and 2015 in Campo Grande/MS .



Source: Prepared by the author through the data available on the website of the Secretariat of Health Surveillance.

**Chart 5** -Cases of HIV/Aids, according to educational level, per year between 2010 and 2015 diagnostic in Campo Grande/MS .



Source: Drawn by the author through the data available on the website of the Secretariat of Health Surveillance.

Referring to the graph 4, the notifications that were identified to race or color of infected people, there were 1037 cases, they are divided into 519 white (50%), 395 pardoes (38%), 79 black (7.7%), 35 (3.4%) yellow, indigenous 3 (0.3%) and 6 ignored (0.6%).

The values regarding the level of schooling, are shown in graph 05.

The notified cases in which it was investigated the schooling of the infected person amounted to 1037 cases, being the higher prevalence of 5th to 8th grade of fundamental education with 284 cases (27%), followed by the middle level with 139 cases (13%) and complete basic education with 128 cases (12%). The other categories of schooling in addition less than half the percentage achieved.

## DISCUSSION

The State of Mato Grosso do Sul focused almost a quarter of the notifications of incidence in the analyzed period, thus remaining with higher indices than the other states of central west region.<sup>9</sup> The raised during the study showed that the largest number of notifications occurs for the population of males in the entire state.

Currently the city of Campo Grande, the capital of the State of Mato Grosso do Sul, has an estimated population of 863,982 inhabitants<sup>10</sup> and is the city that had the highest number of Aids cases in the state, focusing approximately half of the notifications of the state only in the capital (46%). However, the capitals of the states tend to have the highest rates of notifications for being the most populous cities.<sup>9</sup>

In the city of Campo Grande, the subject male adults are those who have the highest prevalence in cases of HIV/Aids, as well as study performed in the same period in the city of Aracaju/SE showed similar results, pointing to the same population as the main affected by infection<sup>11</sup>, and again it was obtained similar results in a study also carried out in the same period in the city of Joaçaba/SC.<sup>12</sup>

In the municipalities of Aracaju/SE and Joaçaba/SC, studies conducted in 2016 also claim that according to the category of exposure there is a greater prevalence among heterosexuals, followed by homosexuals and bisexuals; however, the index of heterosexual incidences in the municipality of Campo Grande/MS is relatively greater than in the other two municipalities commented in this study<sup>11 12</sup>.

At the beginning of the discovery of the disease, the Aids epidemic affects mainly known as “risk group” (homosexuals, injecting drug users, hemotransfused and prostitutes), currently what is observed in studies, it is the reversal of ill, since the epidemic advances among heterosexuals, including monogamous women, with traditional and conservative profile from the point of view of sexual morality.<sup>13</sup>

The schooling and race are also factors of extreme importance as regards the spread of infection, the higher incidence in the population with incomplete basic education and secondary education incomplete if showed in concordance in the municipalities of Campo Grande/MS, Joaçaba/SC and Aracaju/SE, as well as the predominance in the white race followed by pardo. However, in the research conducted in the city of Aracaju/SE, the white is not so

obvious, bringing as the main race, the race pardo. This result can be justified by the fact that the municipality of Aracaju have a significant prevalence of individuals who declare themselves as pardo, when compared to the declared whites.<sup>11 12</sup>

In a comparative analysis to the municipalities of Joaçara/SC and Aracaju/SE, Campo Grande/MS presents similar prevalent characteristics, at least during the period analyzed. There were no limitations, to characterize the data found in both municipalities, the epidemiological profiles of individuals infected were equivalent.

## CONCLUSION

In the analyzed period there were 1393 cases reported, highlighting the incidence in the heterosexual population, male, aged above 24 years old, with level of schooling from the 5<sup>th</sup> to the 8<sup>th</sup> year of Fundamental Education, and regarding race there is a very close variability between white and brown, but even so, in a general way the white race has the prevalence of notifications.

In spite of Campo Grande-MS does not form part of the region with greater detection of cases, having an approximate average of 233 cases per year, even taking into account the high number of inhabitants that the city has, this is a value that can be decreased.

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## COLLABORATIONS

Schmitt SV participated in the data collection, critical analysis of the material, writing of the manuscript submitted and all the subsequent steps. Andrade took part in the conception of UV research and writing of the manuscript. Chagas ACF participated in the critical analysis of material and writing of the manuscript. All authors agree with the content of the final version now published, and take responsibility for all aspects of work, including ensuring its accuracy and completeness.

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Does not apply.

## INTEREST CONFLICTS

There are no conflicts of interest to declare.

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