v. 5, n. 19, 2025

International Journal of Health Science

EPIDEMIOLOGICAL ASPECTS OF SEXUALLY TRANSMITTED INFECTIONS IN BRAZIL DURING THE COVID-19 PANDEMIC

Acceptance date: 08/05/2025

Nara Moraes Guimarães
Médica residente em pediatria pela Irmandade de Misericórdia de São Carlos- SP
https://orcid.org/0000-0002-9129-3085
http://lattes.cnpq.br/3202982254471409

Milena Ferreira Bessa
Estudante de medicina pela universidade Brasil-SP
https://orcid.org/0000-0003-2788-0530
http://lattes.cnpq.br/2877985361228417

Maressa Maziero de Carvalho
Estudante de Medicina pela Universidade Brasil-SP
https://orcid.org/0000-0003-3902-3341
http://lattes.cnpq.br/3999212683055888

Bruno Barberatto Visibeli
Médico residente em Clínica Médico pela Irmandade de Misericórdia Santa Casa de Limeira
https://orcid.org/0009-0000-5777-3440
http://lattes.cnpq.br/5818592959738265

Mariana Duarte de Matos
Estudante de Medicina pela Universidade Brasil-SP
https://orcid.org/0009-0003-4748-4372
https://lattes.cnpq.br/9600792980365237

Pamela Bertollo Ferreira
Médica residente em pediatria Universidade Federal de São Carlos (Ufscar)-SP
https://orcid.org/0009-0005-0120-4958
http://lattes.cnpq.br/7226054440907844

Abstract: The research, carried out through a retrospective, qualitative-quantitative study with data from the DATASUS database, revealed that most Brazilian states showed a significant decrease in cases of sexually transmitted infections (STIs) during the social isolation of the COVID-19 pandemic, due to reduced social interactions. However, in Fernandópolis, AIDS cases increased by 2.5% between 2019 and 2020, indicating that despite the overall drop in STIs, AIDS remains a public health concern. Social isolation has affected access to health services and raised questions about monitoring infections. The research suggests the need for awareness campaigns and health education, promoting the use of protective methods and regular testing. It is essential that public health policies are adapted to ensure that the prevention and treatment of STIs remains a priority. The increase in AIDS cases in Fernandópolis highlights the importance of a continued focus on the prevention and treatment of these infections, even in times of crisis.

Keywords: SARS-Cov2, Syphilis, Acquired Immunodeficiency Syndrome, Hepatitis B.

INTRODUCTION

In December, the World Health Organization (WHO) was informed by China about the spread of a disease that had similar characteristics to pneumonia, and so this disease was called COVID-19 [1]. In a short time, the current disease spread around the world, becoming a pandemic. In February 2020, the Brazilian authorities declared the country in a state of emergency, so measures were taken to contain viral transmission [2].

Strategies such as social isolation have been used, with the aim of limiting social contact, preventing viral transmission from occurring. Measures such as closing educational centers, stores, places of leisure, restricting movement and travel, among others, have been adopted

to limit physical contact [3,4]. The new social configuration of isolation has affected both personal and interpersonal relationships, affecting not only the psychological but also the life routine of the entire population [5].

One of the main determinants of quality of life is sexual life, because in addition to pleasure, sex also helps to build emotional bonds between individuals [6]. Social isolation not only affects the mental, social and physical health of individuals, but also their sexual health [7]. Studies show that during this pandemic scenario there is a significant reduction in births, one of the main factors being the impact of the pandemic on mental and social health, thus reducing the performance of sexual practice [8,9].

The family health strategy is the gateway to STI care, so it has the role of providing individualized medical care, health promotion, prevention campaigns, comprehensive care, and screening [10]. With the pandemic, the entire public health network is focused on implementing strategies to improve the care of patients infected with the SARS-CoV-2 virus. Family strategy teams are focused on first aid for patients classified as mild, as well as raising awareness among the population [11]. In this context, the aim of this study was to analyze the epidemiological profile of cases of sexually transmitted infections (STIs) during social isolation due to the COVID-19 pandemic.

MATERIAL AND METHODS

This was a retrospective, qualitative and quantitative study using secondary data collected from the DATASUS database.

The data collected to date corresponds to the years 2019 and 2020, from all Brazilian states, with an emphasis on the state of São Paulo and the municipality of Fernandópolis. With regard to STIs, the following were analyzed: AIDS, acquired syphilis and hepatitis B, and the list of notifications by federation unit was considered. The search was carried out using the following steps: DATASUS> epidemiology and morbidity> AIDS cases - since 1980 (SINAN) > UF notification> year of notification > frequency > period from 2019 to 2020.

DATASUS> epidemiology and morbidity> AIDS Cases - Since 1980 (SINAN) > municipality notification> year notification> frequency> UF notification São Paulo> period from 2019 to 2020.

- DATASUS > epidemiology and morbidity>Syphilis in pregnant women > state data > Acquired syphilis;
- DATASUS > epidemiology and morbidity > Syphilis in pregnant women > São Paulo > Fernandópolis > Acquired syphilis;
- DATASUS > epidemiology and morbidity > Hepatitis > state data > Hepatitis B;
- DATASUS > epidemiology and morbidity > Hepatitis > São Paulo > Fernandópolis > Hepatitis B.

The two variables (pandemic and STIs) were correlated and analyzed by municipality, state and region in order to see the impact of this relationship. All the information obtained was tabulated and tables were created

This study used only information from the compulsory notification forms for sexually transmitted infections, through the SINAN program, and did not involve identifying the patients.

RESULTS

Table 1 shows the percentages of AIDS cases between 2019/2020, 2020/2021 and 2019/2021 in the different Brazilian states.

During the COVID-19 pandemic, all regions of Brazil have seen a decrease in HIV infection rates, except for the Sergipe region, which saw a 3.28% increase in rates between 2019 and 2020. This situation is particularly worrying, as Sergipe is one of the regions with the lowest rates of positive COVID-19 cases in 2020, alongside Acre, Amapá and Rondônia. The increase in the rate of HIV infections

STATES	2019-2020	2020-2021	2019-2021
Acre	40,48%	48%	69,04%
Alagoas	11,52%	53,10%	58,51%
Amapá	18,27%	46,59%	56,34%
Amazonas	15,70%	38%	47,73%
Bahía	18,34%	56,79%	64,71%
Ceará	24,40%	64,47%	73,14%
Federal District	16,30%	50,53%	58,60%
Holy Spirit	14,46%	39,02%	66,62%
Goiás	17,23%	53,11%	61,19%
Maranhão	30,24%	60,50%	72,45%
Mato Grosso	22,03%	64,27%	72,15%
Mato Grosso do Sul	35,73%	39,82%	61,32%
Minas Gerais	19,94%	53,51%	62,78%
Pará	30,60%	50,78%	65,84%
Paraíba	20,75%	58,42%	67,05%
Paraná	25,05%	54,42%	65,84%
Pernambuco	25,09%	54,80%	66,15%
Piaui	23,46%	57,44%	67,42%
Rio de Janeiro	21,05%	55,70%	65,02%
Rio Grande do Norte	22,44%	60,21%	69,14%
Rio Grande do Sul	23,40%	57,15%	67,17%
Rondônia	16,36%	53,50%	61,11%
Roraima	43,93%	54,48%	74,48%
Santa Catarina	21,64%	51,33%	61,86%
São Paulo	13,32%	56,26%	62,08%
Sergipe	+3,45%	54,89%	53,33%
Tocantins	10,28%	47,13%	52,57%

Table 1: Percentage decrease or increase in AIDS cases between 2019/2020, 2020/2021 and 2019/2021, in the different Brazilian states.

Source: Research data, 2024.

STATES	2019-2020	2020-2021	2019-2021
Acre	21,50%	+70,95%	+34,20%
Alagoas	41,60%	40%	64,96%
Amapá	41,60%	40%	64,96%
Amazonas	38,97%	12,5%	46,60%
Bahía	43,27%	26,61%	58,36%
Ceará	16,76%	47,97%	56,69%
Federal District	0,20%	48,90%	49%
Holy Spirit	34,43%	37,10%	58,77%
Goiás	21,37%	39,24%	52,22%
Maranhão	30,99%	36,43%	56,13%
Mato Grosso	27,55%	71,22%	79,15%
Mato Grosso do Sul	32,56%	57,30%	71,20%
Minas Gerais	19,78%	46,38%	56,98%
Pará	13,53%	33,70%	42,68%

Paraíba	49,55%	42,47%	70,98%
Paraná	34,95%	54,34%	70,30%
Pernambuco	42,70%	31,54%	60,78%
Piaui	49,60%	54,74%	77,19%
Rio de Janeiro	19,06%	56,60%	64,88%
Rio Grande do Norte	17,40%	24,32%	37,50%
Rio Grande do Sul	19,92%	50,59%	60,42%
Rondônia	+4,47%	31,98%	28,94%
Roraima	39,36%	45,96%	67,22%
Santa Catarina	20,48%	36,39%	49,41%
São Paulo	27,27%	43,15%	58,64%
Sergipe	11,83%	24,17%	+38,87%
Tocantins	33,23%	28,65%	52,37%

Table 2: Percentage decrease or increase in Syphilis cases between 2019/2020, 2020/2021 and 2019/2021, in the different Brazilian states.

Source: Research data, 2024.

STATES	2019-2020	2020-2021*	2019-2021
Acre	74,82%	*Unavailable	-------
Alagoas	56,91%	Unavailable	-------
Amapá	40%	Unavailable	-------
Amazonas	53,81%	Unavailable	-------
Bahía	54,36%	Unavailable	-------
Ceará	39,35%	Unavailable	-------
Federal District	28,31%	Unavailable	-------
Holy Spirit	64,01%	Unavailable	-------
Goiás	54,68%	Unavailable	-------
Maranhão	65,14%	Unavailable	-------
Mato Grosso	56,60%	Unavailable	-------
Mato Grosso do Sul	62,5%	Unavailable	-------
Minas Gerais	58,88%	Unavailable	-------
Pará	62,28%	Unavailable	-------
Paraíba	72,03%	Unavailable	-------
Paraná	54,81%	Unavailable	-------
Pernambuco	49,72%	Unavailable	-------
Piaui	75,60%	Unavailable	-------
Rio de Janeiro	63,67%	Unavailable	-------
Rio Grande do Norte	64,70%	Unavailable	-------
Rio Grande do Sul	45,67%	Unavailable	-------
Rondônia	54,52%	Unavailable	-------
Roraima	34,70%	Unavailable	-------
Santa Catarina	42,86%	Unavailable	-------
São Paulo	57,20%	Unavailable	-------
Sergipe	52,68%	Unavailable	-------
Tocantins	70,65%	Unavailable	-------

Table 3: Percentage decrease or increase in hepatitis B cases between 2019/2020, in the different Brazilian states.

Source: Research data, 2024.

STATES	2019-2020	2020-2021	2019-2021
Acre	11,58%	*Unavailable	-------
Alagoas	30,54%	Unavailable	-------
Amapá	-14,17%	Unavailable	-------
Amazonas	15,39	Unavailable	-------
Bahía	58,37%	Unavailable	-------
Ceará	92,18%	Unavailable	-------
Federal District	6,05%	Unavailable	-------
Holy Spirit	52,84%	Unavailable	-------
Goiás	106,72%	Unavailable	-------
Maranhão	-15,56%	Unavailable	-------
Mato Grosso	52,66%	Unavailable	-------
Mato Grosso do Sul	83,19%	Unavailable	-------
Minas Gerais	210,04%	Unavailable	-------
Pará	6,85%	Unavailable	-------
Paraíba	78,23%	Unavailable	-------
Paraná	184,32%	Unavailable	-------
Pernambuco	90,15%	Unavailable	-------
Piaui	34,03%	Unavailable	-------
Rio de Janeiro	111,02%	Unavailable	-------
Rio Grande do Norte	124,85%	Unavailable	-------
Rio Grande do Sul	134,43%	Unavailable	-------
Rondônia	95,13%	Unavailable	-------
Roraima	-12,04%	Unavailable	-------
Santa Catarina	56,96%	Unavailable	-------
São Paulo	104,36%	Unavailable	-------
Sergipe	46,32%	Unavailable	-------
Tocantins	60,43%	Unavailable	-------

Table 4: Percentage increase or decrease in COVID-19 cases between 2019/2020, in the different Brazilian states.

Source: Research data, 2024.

in Sergipe can be attributed to several factors, including the disruption of health services and the lack of awareness campaigns during the pandemic, which resulted in less access to testing and treatment.

In addition, the pandemic has brought to light the fragility of public health networks, which in many cases have been unable to maintain continuity of care for patients with STIs. The prioritization of care for COVID-19 cases meant that many health services aimed at HIV prevention and treatment were temporarily deactivated or reduced, contributing to the increase in new infections.

Table 2 shows the cases of Syphilis between 2019/2020, 2020/2021 and 2019/2021, in the different Brazilian states.

During the COVID-19 pandemic, all regions showed a decrease in the rates of contamination by the syphilis virus, except for the region of Acre, where the rates between 2020 and 2021 increased by 70.95%, Rondônia, where between 2019 and 2021 the rates increased by 4.47% and Sergipe, where between 2019 and 2021 the rates increased by 38.87%. These regions (Acre, Amapá, Rondônia and Sergipe) had the lowest rates of positive Covid-19 cases in 2020 and 2021.

Table 3 shows the percentage decrease or increase in hepatitis B cases between 2019/2020 in the different Brazilian states. During the COVID-19 pandemic, all regions showed a decrease in Hepatitis B virus infection rates. Data for 2021 is not yet available.

During the COVID-19 pandemic, all regions showed a decrease in Hepatitis B virus infection rates. Data for 2021 is not yet available.

The regions of Amapá, Maranhão and Roraima showed a decrease in COVID-19 cases. What we can see is that the regions that showed a decrease in COVID-19 cases or showed the lowest rates were the same regions where STI rates fell the most.

Table 5 shows the percentage decrease or increase in AIDS cases between 2019/2020, 2020/2021 and 2019/2021 in the municipality of Fernandópolis-SP. At the start of the pandemic in 2019 and 2020, HIV cases in Fernandópolis increased by 62.5%, while between 2021 and 2020 the numbers decreased by 92.30%. This is compatible with the increase in significant cases of 112.12% between 2020 and 2021, and with the social isolation instituted during this period.

	2019-2020	2020-2021	2019-2021
AIDS	+62,5	92,30	87,5

Table 5: Percentage decrease or increase in AIDS cases between 2019/2020, 2020/2021 and 2019/2021, in the municipality of Fernandópolis-SP.

Source: Research data, 2024.

At the start of the pandemic, between 2019 and 2020, syphilis cases in Fernandópolis fell by 35.71%. Furthermore, during the period from 2019 to 2021, the numbers of syphilis infections showed an even sharper drop, of 71.42% (Table 6).

This reduction in syphilis cases is compatible with the increase in COVID-19 cases between 2019 and 2021, reflecting how the pandemic has impacted access to health services and the search for diagnosis and treatment of sexually transmitted infections. The interruption of health services and the prioritization of COVID-19 care may have contributed to this decrease, highlighting the need for a close look at sexual health during health crises.

	2019-2020	2020-2021	2019-2021
SYPHILIS	35,71	55,55	71,42

Table 6: Percentage decrease or increase in Syphilis cases between 2019/2020, 2020/2021 and 2019/2021, in the municipality of Fernandópolis-SP.

Source: Research data, 2024.

From 2019 to 2020, hepatitis B cases in Fernandópolis fell by 50%. This reduction is compatible with the increase in COVID-19 cases that occurred between 2019 and 2020 (Table 7).

Data for the years 2020 and 2021 are not available, which makes it difficult to analyze the trend in hepatitis B infections in this period in depth. The decrease in cases may be related to the interruption of health services and the prioritization of COVID-19 care, highlighting the importance of monitoring hepatitis infections and other diseases during periods of health crisis.

	2019-2020	2020-2021	2019-2021
HEPATITIS B	50%	Unavailable	----------

Table 7: Percentage decrease or increase in Hepatitis B cases between 2019/2020, 2020/2021 and 2019/2021, in the municipality of Fernandópolis-SP.

Source: Research data, 2024.

In the municipality of Fernandópolis, 4,477 cases of COVID-19 were reported in 2020 and 9,497 in 2021, representing an increase of 112.12%.

COVID-19		
CONFIRMED CASES		% INCREASE
2020	2021	2020-2021
4.477	9.497	112,12 %

Table 8: Number of cases and percentage increase in COVID-19 cases between 2020/2021, in the municipality of Fernandópolis-SP.

Source: Research data, 2024.

DISCUSSION

Analysis of the data presented in Tables 1 to 8 reveals a complex panorama of sexually transmitted infections (STIs) in Brazil during the COVID-19 pandemic, highlighting both downward trends and increases in specific cases, such as AIDS and syphilis, in different regions of the country and in the municipality of Fernandópolis-SP.

This data not only reflects fluctuations in infection rates, but also raises deeper questions about the structure and resilience of public health services in Brazil. The COVID-19 pandemic has forced a reassessment of priorities in the health system, leading to a redirection of resources and attention to combating the coronavirus. This change has had a direct impact on the ability to respond to other diseases, especially those that require continuous monitoring and awareness campaigns, such as STIs.

Furthermore, analysis of the data reveals significant regional disparities. While many states showed a reduction in AIDS and syphilis cases, others, such as Sergipe and Acre, showed worrying increases. This heterogeneity suggests that responses to the pandemic and public health strategies have not been uniform across the country, reflecting differences in health infrastructure, access to services and the effectiveness of prevention campaigns. The 3.45% increase in AIDS cases in Sergipe, for example, indicates a critical failure to maintain health services during the crisis, which can be attributed to a lack of resources and the interruption of testing and treatment campaigns.

The municipality of Fernandópolis-SP exemplifies this complexity even more. The 62.5% increase in AIDS cases between 2019 and 2020, followed by a drastic drop of 92.30% between 2020 and 2021, suggests that social dynamics and public health policies during the pandemic had a profound impact on infection rates. This oscillation can be interpreted as a reflection of the changing behavior of the population, who, during social isolation, may have reduced interactions that favor HIV transmission, but may also have faced barriers in accessing diagnosis and treatment.

These data not only reveal the urgent need for more robust and integrated public health strategies, but also highlight the importance of continuous and systematic monitoring of STIs, even in the midst of health crises. It is essential that public health policies are adaptable and that sexual health is considered a priority, regardless of the context. The COVID-19 pandemic should not only serve as a wake-up call about the fragility of health networks, but also as a catalyst for implementing the necessary changes to ensure continuous and effective care for all health conditions, including STIs.

Therefore, the analysis of STI data during the pandemic highlights the interdependence between different areas of public health and the need for a holistic approach that considers the multiple facets of population health. The lessons learned should be used to strengthen the health system, ensuring that, in future emergencies, sexual health and STIs receive the necessary attention, thus avoiding setbacks in the advances made in recent decades.

The data in Table 1 shows that, in general, there was a decrease in AIDS cases between 2019 and 2020, with significant variations between states. For example, Acre showed an alarming decrease of 40.48%, highlighting a positive trend that could be attributed to local prevention and treatment efforts. On however,

in contrast, Sergipe recorded a 3.45% increase in cases. This increase is particularly worrying as it occurs in a region which, during the same period, had low COVID-19 rates. This discrepancy suggests that, even in contexts of less pressure from the pandemic, AIDS has continued to spread, indicating failures in the continuity of care and the implementation of prevention strategies.

The increase in cases in Sergipe can be interpreted as a direct reflection of the disruption of health services, which, during the pandemic, prioritized COVID-19 care to the detriment of other health conditions. The lack of awareness campaigns and the scarcity of resources for STI testing and treatment may have contributed to this alarming situation. This reflects the fragility of the public health system, which was unable to maintain continuity of care for patients with STIs during a critical period.

In addition, this situation in Sergipe highlights the importance of an integrated and comprehensive approach to public health, which not only responds to health emergencies, but also keeps an eye on other diseases that affect the population. The COVID-19 pandemic has highlighted how sexual health can easily be neglected in times of crisis, which can result in an increase in infections and long-term health complications.

This data highlights the urgent need for health policies that guarantee continuity of care for STIs, even in emergency contexts. It is essential that health authorities develop strategies that integrate the prevention and treatment of HIV and other STIs into their responses to crises, ensuring that the health of the population is not compromised. Sergipe's experience serves as a wake-up call for other regions, emphasizing the importance of maintaining accessible and effective health services, even in the face of unprecedented challenges.

Therefore, the analysis of AIDS rates in the different Brazilian states during the pandemic not only illustrates the complexity of the situation, but also points to the need to strengthen public health networks, which must be resilient enough to face not only immediate crises, but also to sustain the health of the population in the long term.

The pandemic has brought to light the vulnerability of public health networks, which have been unable to sustain the continuity of care for patients with STIs. The prioritization of care for COVID-19 cases led to the reduction or deactivation of essential services for HIV prevention and treatment, resulting in an increase in new infections in some regions. The interruption of awareness campaigns and the difficulty of access to testing and treatment have been crucial factors in this dynamic. This situation highlights the need for more robust and flexible planning in health policies, which considers not only health emergencies, but also the maintenance of essential services that guarantee the health of the population in all its dimensions [4,5].

In addition, the pandemic has exposed the inequalities that already exist in the health system, where some populations, especially those in situations of social vulnerability, have faced even greater barriers to accessing health care. Groups such as young people, people living with HIV, and marginalized communities have been disproportionately affected by the disruption of services. The lack of information and stigmatization associated with STIs also contributed to increased fear and hesitancy to seek care, exacerbating the situation. Thus, the COVID-19 crisis has not only disrupted STI care, but has also deepened the inequalities already present, making the need for interventions targeting these vulnerable populations even more urgent [1,2,3].

Finally, this experience should serve as a wake-up call to build a more resilient and integrated health system. It is essential that the lessons learned during the pandemic are incorporated into public health policies, promoting a holistic approach that integrates STI prevention and treatment into all emergency response strategies [7]. The creation of protocols that guarantee the continuity of health services, even in times of crisis, is essential to avoid setbacks in the progress made in the fight against HIV and other sexually transmitted infections. Only in this way will it be possible to ensure the protection of the population's health and minimize the impact of future pandemics on sexual and reproductive health [8,9].

Table 2, which presents data on syphilis, shows that, as with AIDS, most states experienced a decrease in cases during the pandemic. However, some notable exceptions, such as Acre and Sergipe, registered worrying increases. Acre, in particular, had a 70.95% increase between 2020 and 2021, which indicates a possible failure in the public health response to deal with STIs during periods of crisis. This alarming growth reveals not only the fragility of the prevention and treatment strategies in place, but also the urgent need for a reassessment of health policies to ensure continuity of care for these conditions, even in times of emergency.

The situation in Acre is particularly worrying, as it suggests that disruptions in health services and a lack of awareness campaigns may have led to a significant increase in the transmission of syphilis. The absence of adequate follow-up and targeted interventions can result in serious public health consequences, including long-term health complications for affected individuals. In addition, the lack of access to effective testing and treatment can perpetuate the cycle of infection and stigmatization, making it even more difficult for the population to seek care.

This reality highlights the need for robust strategies to ensure that sexual health is not neglected in times of health emergency. It is essential that health authorities develop contingency plans that integrate STI prevention and treatment into their crisis responses, ensuring that essential services remain accessible. Implementing awareness campaigns and promoting regular testing are crucial measures to contain the spread of infections such as syphilis. Only through a continued commitment to sexual and reproductive health will it be possible to avoid setbacks in the fight against these diseases and protect the health of the general population.

The data on hepatitis B in Table 3 and 4 show an overall decrease in cases between 2019 and 2020. This reduction can be interpreted as a reflection of previous efforts in vaccination and awareness campaigns, as well as improvements in access to diagnosis and treatment. However, the lack of available data for 2021 limits analysis of the long-term trend and prevents an accurate assessment of the impact of the pandemic on hepatitis B. This information gap is worrying, as it makes it difficult to identify whether the observed decrease is a sustainable trend or whether it only represents a temporary interruption in diagnoses due to the pandemic. Furthermore, this lack of data underscores the importance of continuous monitoring of hepatitis infections and other diseases, especially during health crises.

Regular and systematic data collection is essential for understanding the dynamics of infections and for formulating effective public health policies. Without up-to-date information, health authorities may fail to identify emerging outbreaks or areas in need of specific interventions, thus compromising control and prevention efforts.

Finally, the current situation highlights the need to strengthen health surveillance systems, ensuring that there are adequate resources and infrastructure for data collection and analysis, even in times of crisis. This includes the implementation of digital platforms that facilitate the sharing of information between different levels of government and health institutions. Only with effective monitoring will it be possible to implement targeted and timely interventions, ensuring that the fight against hepatitis B and other infections continues to advance, regardless of the circumstances.

The data specific to Fernandópolis reveals an even more intriguing situation. Tables 5, 6 and 7 show an alarming 62.5% increase in AIDS cases between 2019 and 2020, followed by a drastic decrease of 92.30% between 2020 and 2021. This abrupt change can be attributed to social isolation and reduced social interactions, which, although they have decreased HIV transmission, may also have led to an underreporting of cases during the first year of the pandemic. It is possible that many people, fearful of seeking medical attention due to the risk of becoming infected with the coronavirus, have postponed testing and diagnosis, resulting in an apparent decline in the numbers of new cases.

In addition, the significant 71.42% reduction in syphilis cases in Fernandópolis reflects a pattern similar to that observed in other states in the country. This drop can be interpreted as a side effect of social distancing measures, which have limited personal interactions and, consequently, the transmission of sexually transmitted infections. However, it is crucial to consider that this decrease may not necessarily indicate an improvement in public health, but rather an interruption in access to health services. During the pandemic, many health services were redirected towards combating COVID-19, which may have hindered the diagnosis and treatment of other diseases, including STIs.

The situation in Fernandópolis highlights the urgent need for a more in-depth analysis of the consequences of the pandemic on local public health. It is essential that health authorities carry out detailed investigations to understand the reasons behind these fluctuations in data. In addition, it is essential to implement recovery strategies that ensure that health services can once again adequately serve the population, with a special focus on sexual and reproductive health. Awareness campaigns and testing programs must be prioritized to reverse the negative effects of the pandemic and ensure that the population has access to essential care, thus preventing a future increase in the rates of infections such as AIDS and syphilis.

Table 8 shows a dramatic increase in COVID-19 cases in Fernandópolis, with an increase of 112.12% between 2020 and 2021. This sharp increase not only reflects the severity of the pandemic, but also highlights how the health crisis has impacted the functioning of health services. During this period, many resources were directed towards combating the coronavirus, which may have led to a significant decrease in the capacity to care for other health conditions, including sexually transmitted infections (STIs). This shift in focus may have contributed to the underreporting and inadequate treatment of diseases which, although critical, did not receive the same media and institutional attention.

The correlation between the increase in COVID-19 cases and the decrease in STIs suggests that, in contexts where COVID-19 was more prevalent, health services were forced to prioritize care for coronavirus patients, resulting in less attention being paid to other infections. This dynamic is worrying, as it implies that while the population was dealing with an unprecedented health crisis, other health conditions, which also require urgent attention, were left at the mercy of neglect. The lack of

resources and overburdened health systems may have led to an increased risk of complications and the spread of STIs, creating a potentially catastrophic scenario for public health in the long term.

This situation highlights the need to integrate response strategies to different diseases, ensuring that sexual health is not compromised during public health crises [10]. It is essential that health authorities develop plans that consider the interconnection between different areas of health, promoting a holistic approach that not only treats COVID-19, but also maintains surveillance and treatment of other conditions. This could include implementing awareness campaigns that address both COVID-19 prevention and the importance of sexual health, as well as ensuring that STI testing and treatment services remain accessible and visible even in times of crisis. Only with an integrated approach will it be possible to protect the health of the population in a comprehensive and effective way [10,11].

The results highlight the urgent need for public health strategies that address the prevention and treatment of sexually transmitted infections (STIs), even in times of crisis. It is essential that health authorities implement awareness campaigns that inform the population about the importance of sexual health and the prevention of STIs, as well as guaranteeing access to testing and treatment. These campaigns must be comprehensive and adapted to local realities, using effective communication channels to reach different demographic groups. Maintaining continuity of health services for STIs is also crucial, as delaying diagnosis and treatment can result in serious consequences for individual and collective health.

In addition, the collection and analysis of data on STIs must be improved to enable a better understanding of infection trends in different contexts. This includes the implementation of surveillance systems that can quickly identify outbreaks and changes in infection patterns, allowing for an agile and effective response. The use of modern technologies, such as health apps and digital platforms, can facilitate access to information and monitoring of health conditions, promoting greater transparency and engagement of the population. Ensuring that sexual health is a priority in all situations is essential to prevent crises, such as the COVID-19 pandemic, from resulting in significant setbacks in public health achievements.

In short, the COVID-19 pandemic has not only affected public health directly, but has also had significant repercussions on the management and treatment of sexually transmitted infections. This situation highlights the need for a holistic and integrated approach to public health, which considers the interdependence between different areas of health. For the lessons learned during the pandemic to be effectively applied, it is essential that health managers develop policies that not only respond to immediate crises, but also ensure the continued protection of the sexual and reproductive health of the population, regardless of the context in which they find themselves. This proactive and comprehensive approach is vital to building resilient health systems capable of facing future challenges.

CONCLUSION

Based on the results obtained and the methodology used, it is possible to conclude that:

- In most Brazilian states there has been a decrease in cases of sexually transmitted infections (STIs) during social isolation in the COVID-19 pandemic;

- The municipality of Fernandópolis showed a similar pattern to the Brazilian states, except for the notified AIDS cases in the 2019-2020 period, which showed an increase of 2.5%;
- The social isolation imposed during the COVID-19 pandemic has influenced the decrease in cases, either due to the lack of access to health centers or due to the death of people contaminated by the pathogens that cause STIs.

A lot of data was not available at the time of this research.

REFERENCES

1. WU, F.; ZHAO, S.; YU, B. et al. **A new coronavirus associated with human respiratory disease in China**. *Nature* 2020; 579(7798):265-269.

2. JORNAL FOLHA DE SÃO PAULO. **Governo federal decreta estado de emergência para conter coronavírus no Brasil**. Folha de São Paulo, São Paulo, 04.02.2020. Disponível em: https://www1.folha.uol.com.br/equilibrioesaude/2020/02/governo-decreta-estado-de-emergencia-por-causa-de-surto-do-coronavirus.shtml.

3. HALE, T.; WEBSTER, S. **Oxford COVID-19 Government Response Tracker**. Data use policy: Creative Commons Attribution CC BY standard 2020. Disponível em: https://www.bsg.ox.ac.uk/research/publications/variation-government-responses-covid-19 » https://www.bsg.ox.ac.uk/research/publications/variation-government-responses-covid-19

4. AQUINO, E.; LIMA, R. **Medidas de distanciamento social no controle da pandemia de COVID-19: potenciais impactos e desafios no Brasil**. Ciênc. saúde coletiva 25 (suppl 1) 05 Jun 2020Jun 2020

5. ORNELL, F. et al. **"Pandemic fear" and COVID-19: mental health burden and strategies.** Braz. J. Psychiatry, São Paulo, 2020. Disponível em <http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1516-44462020005008201&lng=en&nrm=iso>. http://www.scielo.br/scielo.php?script=s...

6. CANOSA, A. EDITORIAL. **Revista Brasileira de sexualidade humana**. 31(1); 6-9

7. CENTRE FOR ADDICTION AND MENTAL HEALTH. **Mental health and the COVID-19 pandemic**. 2020. https://www.camh.ca/en/health-info/mental-health-and-covid-19.

8. COUTINHO, R.; LIMA, L.; LEOCÁDIO V. et al. **Considerations about the COVID-19 pandemic and its effects on fertility and sexual and reproductive health of Brazilian women**. R. bras. Est. Pop., v.37, 1-9, e0130, 2020

9. MD, L. **Queda do Desempenho Sexual em Homens e Mulheres Durante a Pandemia do Novo Coronavírus** - Covid-19. Revista Científica de Urologia da SBU-MG. - 2318-0021. 2020

10. SOBREIRA, M.; ANDRADE, F. **Melhoria do Acesso a Portadores de Infecções Sexualmente Transmissíveis**. Disponível em https://ares.unasus.gov.br/acervo/html/ARES/12224/1/ARTIGO%20MIGUEL.pdf

11. DAUMAS, R.; SILVA, G.; TASCA, R. **O papel da atenção primária na rede de atenção à saúde no Brasil: limites e possibilidades no enfrentamento da COVID-19.** Cad. Saúde Pública 36 (6) 26 Jun 20202020

12. PONTES, N. **Sucateado, SUS vive "caos" em meio à pandemia.** Deutsche: Welle, 2020. Disponível em: <https://www.dw.com/pt-br/sucateado-sus-vive-caos-em-meio-%C3%A0-pandemia/a-52812503>. Acesso em: 13 dez. 2020.

13. OTONI, R. C**oronavírus mostra importância do SUS.** Revista online Fórum. 2020. Disponível em: <https://revistaforum.com.br/debates/coronavirus-mostra-importancia-do-sus-por-reimont-otoni/>. Acesso em: 13 fev. 2021.