

# **EPIDEMIOLOGICAL PROFILE OF SYPHILIS BETWEEN 2017 TO 2021 IN THE MUNICIPALITIES OF CUIABÁ AND VÁRZEA GRANDE**

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## INTRODUCTION

Syphilis is a sexually transmitted infection (STI) exclusive to humans, potentially curable, caused by the bacteria *Treponema pallidum*, causing different symptoms in three different stages: primary, secondary and tertiary. The first two have more infectious characteristics, with greater transmissibility. The third stage, on the other hand, can take a while to manifest itself and, if not treated, the disease can be parked until the moment when serious complications arise. <sup>(1)</sup>

The mode of transmission of the disease is through unprotected sexual intercourse, transfusion of contaminated blood and vertically. According to WHO data, about 12 million people worldwide are affected by the disease and it is considered one of the most common STIs in the world.<sup>(2)</sup> In addition to serious complications, infertility, gestational problems and premature birth, the disease also increases the risk of sexual transmission of the human immunodeficiency virus (HIV).<sup>(3)</sup>

Syphilis is a compulsorily notifiable disease and several ordinances were instituted to strengthen the scenario. The current ordinance that defines the National List of Compulsory Notification of Diseases, Injuries and Public Health Events is Ordinance No. 264, of February 17, 2021, which includes the notification of congenital, acquired and gestational syphilis. The individual notification form of the Notifiable Diseases Information System (SINAN) must be used.

In view of the above, it is important to disseminate in health services that this STI is curable with adequate treatment, in addition to showing that disease prevention takes place through educational measures. For disease control, therefore, it is important to analyze the epidemiological profile of this health problem in order to improve control measures.

## OBJECTIVE

To analyze the epidemiological profile of confirmed cases of syphilis from 2017 to 2021 in the municipalities of Cuiabá and Várzea Grande in the state of Mato Grosso.

## METHODOLOGY

This is a retrospective observational study on confirmed cases of syphilis acquired during the years 2017 to 2021. The data used were collected from the DATASUS TABNET using the epidemiological and morbidity item. The information collected is epidemiological data on notifiable diseases and conditions provided by the Notifiable Diseases Information System (SINAN). The clipping used to verify the information was regarding the geographic scope and municipality, including only the cities of Cuiabá and Várzea Grande.

The variables analyzed were: distribution of confirmed cases by municipality, notification by gender, distribution by age group, correlation between age group and gender, and diagnostic criteria used.

## RESULTS AND DISCUSSIONS

In Cuiabá, between 2017 and 2021, 1,968 cases of acquired syphilis were reported, while in Várzea Grande 15 cases were reported (Table 1), a fact that shows a discrepancy in notifications in the municipalities. Regarding the years, 36 notifications were found in 2017, 708 in 2018, 798 in 2019, 430 in 2020 and 11 in 2021, totaling 1983 cases. The change in the growing profile found, represented by the drop of 98.44% when comparing the years 2019 and 2021 (Table 1) suggests the reflection of the COVID-19 pandemic in the underreporting of other diseases during the period.<sup>(4)</sup>

Municipality of notification	2017	2018	2019	2020	2021	Total
Cuiabá	36	707	794	420	11	1968
Várzea Grande	-	1	4	10	-	15
Total	36	708	798	430	11	1983

Table 1. Acquired syphilis distribution by municipality between 2017 and 2021.

Source: Ministry of Health/SVS - Notifiable Diseases Information System – Sinan Net

The age group from 20 to 39 years presents most of the records (61.97%) (Table 3), being noted that the male sex corresponds to 62.87% of the cases (Table 2). Among the correlation between sex and age, it is observed that 66% of women were confirmed between 15 and 39 years old, while 72% of men were confirmed between this same age group (Table 4). This demonstrates that men become infected earlier than women.

Year of notification	Ignored	Masculine	Feminine	Total
Total	1	1.768	1.043	2.812
2017	-	198	118	316
2018	1	596	313	910
2019	-	574	340	914
2020	-	368	251	919
2021	-	32	21	53

Table 2.

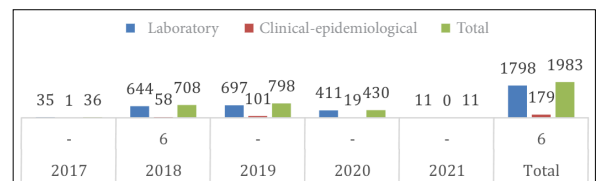
Source: Ministry of Health/SVS- Information System for Notifiable Diseases-Sinan Net

Age Range	Ignored	Masculine	Feminine	Total
out/14	-	3	5	8
15-19	-	77	82	159
20-39	1	838	390	1229
40-59	-	274	173	447
60-64	-	27	22	49
65-69	-	23	20	43
70-79	-	24	17	41
80 e +	-	3	4	7
Total	1	1269	713	1983

Table 4. Prevalence by age group by sex of acquired syphilis cases between 2017 and 2021.

Source: Ministry of Health/SVS- Notifiable Diseases Information System- SinanNet.

Furthermore, laboratory diagnosis was used to confirm cases in more than 90% of the analyzed period (graph 1). Rapid treponemal tests are undoubtedly the most used in practice.<sup>(1)</sup> Therefore, in Primary Care health units, its use must be widely encouraged, given that it is a simple and quick test.



Graph 1. Diagnostic criteria for syphilis acquired between 2017 and 2021.

Source: Ministry of Health/SVS- Information System for Notifiable Diseases-SinanNet.

Year of notification	out/14	15-19	20-39	40-59	60-64	65-69	70-79	80 e +	Total
2017	-	4	21	10	1	-	-	-	36
2018	2	55	451	158	16	12	11	3	708
2019	5	75	491	177	17	17	15	1	798
2020	1	25	262	97	15	13	14	3	430
2021	-	-	4	5	-	1	1	-	11
Total	8	159	1229	447	49	43	41	7	1983

Table 3. Congenital syphilis distribution by age group between 2017 and 2021.

Source: Ministry of Health/SVS- Information System for Notifiable Diseases-Sinan Net.

The present study identified that syphilis in the municipality of Cuiabá and Várzea Grande has tended to be underreported in recent years, which may be masking the real severity of the disease, especially in Várzea Grande. Sociodemographically, the age group from 20 to 39 years old is the most susceptible to the disease, a fact that corroborates the national findings.<sup>(3)</sup> In addition, the prevalence of males is highlighted, in which indicators show that they are infected earlier than females. However, attention must also be given to females, mainly due to the risk of vertical transmission.<sup>(1)</sup> The significant number of adolescents and young adults infected by the disease alerts us to the precocious and unprotected beginning of sexual life.<sup>(5)</sup>

In view of the above, there is still a failure in the notification system that ensures more realistic data for epidemiological analysis.

## FINAL CONSIDERATIONS

The study demonstrated intrinsic vulnerabilities in confirmed cases, such as males and youth. However, what most draws attention is the difference in the notifications presented between the municipalities analyzed, which may suggest a failure in the notification of health services in Várzea Grande. In addition, the decreasing number of notifications in the last 2 years must be highlighted, suggesting that the COVID 19 pandemic made it difficult to report this condition, which may jeopardize early detection and timely treatment.

**Keywords:** Syphilis. Epidemiology. social indicators

Characteristic	n (%)
Municipality of notification	
Cuiabá	1.968 (99,24%)
Várzea Grande	15 (0,86%)
Sex	
Masculine	1768 (62,87%)
Feminine	1043 (37,09%)
ignored	1 (0,03%)
Age range	
14 e -	8 (0,40%)
15-19	159 (8,01%)
20-39	1229 (61,97%)
40-59	447 (22,5%)
60-64	49 (2,47%)
65-69	43 (2,16%)
70-79	41 (2,06%)
80 e +	7 (0,35%)
Diagnostic criteria	
Laboratory	1798 (90,98%)
Epidemiological clinician	179 (9,02%)

Table 5. Characteristics of acquired syphilis.

Source: Ministry of Health/SVS- Information System for Notifiable Diseases-Sinan Net.

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