

Epidemiological profile of gestational and congenital syphilis in an area covered by the Pinheirinho region of São José do Rio Preto

Perfil epidemiológico de la sífilis gestacional y congénita en un área de la región Pinheirinho de São José do Rio Preto

Perfil epidemiológico da sífilis gestacional e congênita em uma área de abrangência da região Pinheirinho de São José do Rio Preto

Tiara da Silva Alves^{1*}

ORCID: 0000-0002-7799-0204

Geovana Zerlote Santos¹

ORCID: 0000-0002-1760-1721

Rebeca Kelen Barbosa Ribeiro¹

ORCID: 0000-0002-7733-9980

Antonio Amaro dos Santos¹

ORCID: 0000-0002-5975-4144

Tairini Cristina Mantovani¹

ORCID: 0000-0003-39471734

Kleber Aparecido de Oliveira¹

ORCID: 0000-0002-7747-4680

James da Luz Rol¹

ORCID: 0000-0003-4060-0521

Mariana Sartori de Oliveira

Antunes¹

ORCID: 0000-0001-5497-3463

Morian Lauana Miguelão

Canada¹

ORCID: 0000-0002-7016-8998

Francine da Silva e Lima de

Fernando¹

ORCID: 0000-0003-4650-3677

¹Centro Universitário do Rio Preto. São Paulo, Brazil.

How to cite this article:

Alves TS, Santos GZ, Ribeiro RKB, Santos AA, Mantovani TC, Oliveira KA, Rol JL, Antunes MSO, Canada MLM, Fernando FSL. Epidemiological profile of gestational and congenital syphilis in an area covered by the Pinheirinho region of São José do Rio Preto. Glob Acad Nurs. 2023;4(1):e344.
<https://dx.doi.org/10.5935/2675-5602.20200344>

*Corresponding author:

tiarasilva097@gmail.com

Submission: 11-30-2022

Approval: 01-23-2023

Abstract

The aim was to identify the epidemiological profile of pregnant women and newborns with syphilis in a neighborhood of São José do Rio Preto/SP. Descriptive, quantitative and retrospective study, using medical records and the database of the Information System for Notifiable Diseases of 28 pregnant women with gestational syphilis and five newborns with congenital syphilis, at the Solo Sagrado UBSF in the area covered by the Pinheirinho de Pinheirinho Region. São José do Rio Preto/SP in the period 2019/2020. In 2019, 268 pregnant women underwent prenatal care and 21 of them were notified with a diagnosis of gestational syphilis, only four babies with congenital syphilis tested positive in the treponemal/non-treponemal test at delivery/curettage and two of them evolved to miscarriage. In 2020, 275 pregnant women underwent prenatal care and seven were diagnosed and notified with gestational syphilis and only one baby with congenital syphilis tested positive in the treponemal/non-treponemal test at delivery. Considering that the main difficulties encountered in reducing vertical transmission are associated with late diagnosis or non-treatment, or inadequate treatment of pregnant women, in addition, socioeconomic, demographic and care factors contribute to the increase in its incidence.

Descriptors: Gestational Syphilis; Congenital Syphilis; Vertical Transmission; Epidemiological Profile; Vertical Transmission of Infectious Diseases.

Resumén

El objetivo fue identificar el perfil epidemiológico de gestantes y recién nacidos con sífilis en un barrio de São José do Rio Preto/SP. Estudio descriptivo, cuantitativo y retrospectivo, utilizando historias clínicas y la base de datos del Sistema de Información de Enfermedades de Declaración Obligatoria de 28 gestantes con sífilis gestacional y cinco recién nacidos con sífilis congénita, en la UBSF Solo Sagrado de la Región de Pinheirinho de Pinheirinho, São José do Rio Preto /SP en el período 2019/2020. En 2019, 268 gestantes realizaron control prenatal y 21 de ellas fueron notificadas con diagnóstico de sífilis gestacional, solo cuatro bebés con sífilis congénita dieron positivo en la prueba treponémica/no treponémica al parto/legrado y dos de ellas evolucionaron a aborto espontáneo. En 2020, 275 mujeres embarazadas realizaron control prenatal y siete fueron diagnosticadas y notificadas con sífilis gestacional y solo un bebé con sífilis congénita dio positivo en la prueba treponémica/no treponémica al parto. Considerando que las principales dificultades encontradas para reducir la transmisión vertical están asociadas al diagnóstico tardío o no tratamiento, o tratamiento inadecuado de las gestantes, además, factores socioeconómicos, demográficos y asistenciales contribuyen al aumento de su incidencia.

Descriptoros: Sífilis Gestacional; Sífilis Congénita; Transmisión Vertical; Perfil Epidemiológico; Transmisión Vertical de Enfermedades Infecciosas.

Resumo

Objetivou-se identificar o perfil epidemiológico das gestantes e recém-nascidos com sífilis em um bairro de São José do Rio Preto/SP. Estudo descritivo, quantitativo e retrospectivo, por meio de prontuários e banco de dados do Sistema de Informação de Agravos de Notificação de 28 gestantes com sífilis gestacional e cinco recém-nascidos com sífilis congênita, na UBSF Solo Sagrado da área de abrangência da Região Pinheirinho de São José do Rio Preto/SP no período de 2019/2020. Em 2019, 268 gestantes realizaram pré-natal e 21 delas foram notificadas com diagnóstico de sífilis gestacional, apenas quatro bebês com sífilis congênita testaram positivo no teste treponêmico/não treponêmico no parto/curetagem e dois deles evoluíram para aborto. Já em 2020, 275 gestantes realizaram o pré-natal e sete foram diagnosticadas e notificadas com sífilis gestacional e apenas um bebê com sífilis congênita testou positivo no teste treponêmico/não treponêmico no parto. Considerando que as principais dificuldades encontradas para redução da transmissão vertical estão associadas ao diagnóstico tardio ou não tratamento, ou o tratamento inadequado das gestantes, além disso, fatores socioeconômicos, demográficos e assistenciais contribuem para o aumento da sua incidência.

Descriptoros: Sífilis Gestacional; Sífilis Congênita; Transmissão Vertical; Perfil Epidemiológico; Transmissão Vertical de Doenças Infecciosas.



Introduction

Syphilis is an infection caused by a gram-negative bacteria called *Treponema pallidum*. It is considered an infection of a known nature, disseminated through sexual contact without prevention, and can evolve in a systemic and chronic way, depending on the time of contagion and the stage in which it is found^{1,2}.

However, syphilis is divided into four stages, primary syphilis that present wounds, usually single, at the site of entry of the bacteria (penis, vulva, vagina, cervix, anus, mouth, or other sites on the skin), appears between 10 and 90 days after contact, there is no pain, itching, burning or secretion, this lesion is called "hard chancre"³.

Secondary syphilis has the appearance of signs and symptoms between 6 weeks and 6 months after the appearance and healing process of the initial wound, during this period, spots may appear on the body, including the palms of the hands and soles of the feet, and may present with fever, malaise, being, headache and rashes all over the body⁴.

Latent syphilis is the asymptomatic phase, where it does not show signs or symptoms, this stage is subdivided into recent latent (up to one year of infection) and late latent (more than one year of infection). Tertiary syphilis can appear between 1 and 40 years after the onset of infection, it usually presents signs and symptoms, mainly skin, bone, cardiovascular and neurological lesions, and can lead to death³.

In diagnosing the disease, tests are divided into two categories: direct examinations and immunological tests. Direct exams are those that detect *Treponema Pallidum*, where the samples for the test are collected directly from the lesion. Immunological tests are the most used in clinical practice, as they perform the search for antibodies in samples of whole blood, serum or plasma, these tests are divided into treponemal and non-treponemal categories¹.

In the vast majority of cases, the diagnosis is made by carrying out the rapid test (RT) of the treponemal test category, where it is found available in the health services of the SUS, distributed by the department of STIs, HIV/AIDS and Viral Hepatitis /Department of Health Surveillance/Ministry of Health (DIAHV/SVS/MS), with reading of the result in a maximum of 30 minutes³.

Gestational syphilis, when not treated, is an indicator of failures in prenatal care due to non-attendance of the pregnant woman, late collection or, when not performed correctly, evolving into congenital syphilis, the result of the hematogenous dissemination of *Treponema pallidum* in the infected pregnant woman, its means of transmission is characterized by transplacental and vertical transmission^{5,6}.

Considered a global public health problem, the Ministry of Health (MS) has been guiding municipalities with numerous strategies to control gestational syphilis. However, according to the World Health Organization (WHO), it is estimated that syphilis affects 12 million people worldwide and 1.6 million cases of congenital syphilis, causing fetal and neonatal deaths and exposing the risk of

premature death, which given the severity and magnitude of the disease, it was included as a notifiable disease^{7,8}.

In view of this, for surveillance, control and prevention measures, the Ministry of Health created Ordinance No. 33, of July 14, 2005, which provides for the inclusion of syphilis in pregnant women on the list of compulsory notifiable diseases with the mission of adequately control the behavior of the infection during pregnancy and treatment planning. In addition, through Ordinance No. 542, of December 22, 1986, congenital syphilis was included in the list of notifiable diseases in the national territory⁹.

As detection measures, the Ministry of Health created Ordinance No. 77, of January 12, 2012, which provides for rapid HIV and syphilis testing in primary care, as well as for other conditions provided in the pre-trial period. christmas for expectant mothers and their partners¹⁰.

The Previne Brasil program was established by Ordinance No. 2,979, of November 12, 2019, with the aim of balancing financial amounts with a financing proposal focused on expanding people's access to Primary Health Care (PHC) services. Within the scope of the Previne Brasil program, the Ministry of Health created Ordinance No. 3,222, of December 10, 2019, which provides for payment indicators to municipalities, to promote primary health care, which includes six prenatal consultations, being carried out from the 1st to the 20th week of pregnancy, dental care, syphilis, HIV and vaccine tests. Thinking about the partner, the National Policy for Integral Attention to Men's Health (PNAISH), bets on the inclusion of the theme of fatherhood and care, through the partner's prenatal care, encouraging the presence of the father in the pregnant woman's prenatal care and offering two consultations for requesting and carrying out routine exams^{1,11,12}.

To guide health actions in PHC, the Ministry of Health implemented the Primary Health Care Service Portfolio (CaSAPS), these actions are separated by "Health Surveillance", "Health Promotion", "Health-Centered Care and Care". Adult and Elderly", "Attention and Care Centered on Child and Adolescent Health, "Procedures in PHC" and "Attention and Care Related to Oral Health"¹³.

The Clinical Protocols and Therapeutic Guidelines (PCDT) for Comprehensive Care for People with Sexually Transmitted Infections (STIs) aim to establish criteria for diagnosing infections/diseases or health problems, recommended treatment with medications, recommended dosages, mechanisms of clinical control, follow-up and verification of therapeutic results, which must be followed by health professionals and managers of the Unified Health System (SUS)¹.

The São José de Rio Preto Health Department implemented Ordinance No. 06, of March 5, 2018, which establishes the fight against Vertical Transmission of Chronic Transmissible Diseases, with the aim of informing, mapping problems and proposing solutions from a diagnosis¹⁴.

Based on the TABNET - DATASUS Health Information records, in the period of 2020, in the State of São Paulo (SP), the Southeast region has a greater predominance in the following variables: age group 20-39



Epidemiological profile of gestational and congenital syphilis in an area covered by the Pinheirinho region of São José do Rio Preto

Alves TS, Santos GZ, Ribeiro RKB, Santos AA, Mantovani TC, Oliveira KA, Rol JL, Antunes MSO, Canada MLM, Fernando FSL

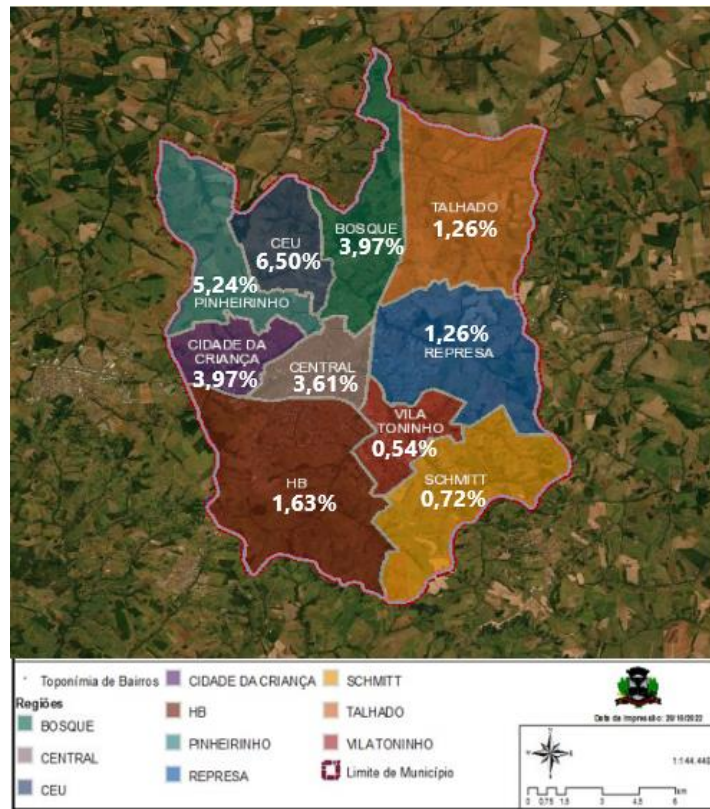
years, level of education, the complete high school and what differs in the municipality of São José do Rio Preto is the clinical classification and race, therefore, the state of SP, has a greater predominance in the latent stage and brown race, and the municipality of SJRP in the primary stage and race white¹⁵.

Thus, due to the impact of syphilis and the evolution of the number of cases, it is essential that municipalities know the incidence of the disease in the population, in order

to take measures for prevention and control. Thus, this study aims to describe the epidemiological and geographic profile of syphilis during pregnancy and congenital syphilis.

The municipality of São José do Rio Preto is divided into 10 regions (Figure 1), therefore, to prepare this, a Basic Family Health Unit in the Pinheirinho Region was used, the UBSF Solo Sagrado, which is subdivided into micro areas (Figure 2).

Figure 1. Geographic division of the municipality of São José do Rio Preto and percentage of incidences of gestational syphilis in the areas covered. São Jose do Rio Preto, SP, Brazil, 2020



Fonte: Rio Preto¹⁶.

Figure 2. Map of the division of micro areas of UBSF Solo Sagrado. São Jose do Rio Preto, SP, Brazil, 2020



Source: Google Maps¹⁷.



Thus, the present study aimed to carry out research in this area covered by the Pinheirinho region, as it is one of the most populous areas in the North Region of São José do Rio Preto and a population with low purchasing power. A search was carried out in the medical records and database of the Notifiable Diseases Information System (SINAN) to identify the epidemiological profile of gestational and congenital syphilis in the pre- and post-pandemic period of UBSF Solo Sagrado.

Methodology

This is a descriptive, quantitative and retrospective study, where data collection was carried out, according to secondary information made available through data collection in the medical records and database of the Notifiable Diseases Information System (SINAN), of 28 pregnant women with gestational syphilis and five newborns with congenital syphilis, at the Solo Sagrado UBSF in the Pinheirinho Region of São José do Rio Preto/SP, in the period 2019/2020. Therefore, the following variables were collected from the pregnant women: age group, race, education, housing (rural, urban, peri-urban or unknown area), whether the partner was treated concomitantly with the pregnant woman, gestational trimester, clinical classification (primary, secondary, tertiary, latent or ignored), prenatal non-treponemal and treponemal testing, treatment regimen prescribed for pregnant woman, treatment prescribed for partner, and reason for non-treatment.

In cases of congenital syphilis, the following variables were collected from mothers: race, education, whether prenatal care was performed, when syphilis was diagnosed, treatment situation (appropriate, inadequate or not performed), non-treponemal test (delivery/curettage , peripheral blood, cerebrospinal fluid), cerebrospinal fluid alteration, treponemal test at delivery, ascending titration, radiological diagnosis of the newborn, treatment scheme and case evolution.

For the theoretical basis, the search for articles was carried out using the descriptors in Health Sciences (DeCS): Syphilis, Congenital Syphilis, Vertical Transmission and Epidemiological Profile. National scientific articles were selected, which address the topic Syphilis during pregnancy as the main subject, published from 2017 to 2022, with full texts available in full online and websites of the Ministry of Health, Municipal Secretariat of São José do Rio Preto and DATASUS.

The research followed the ethical precepts that establish the norms for carrying out research involving human beings, explained in Resolution n.º 466/12. The waiver of the Free and Informed Consent Form was requested, as this is a research in medical records and SINAN files, ensuring the anonymity and confidentiality of those involved. The study began after approval by the Research Ethics Committee under CAAE No. 61179822.0.0000.5604 and Opinion No. 5583.23, issued on August 15, 2022.

Results

Of the 543 medical records of pregnant women analyzed at UBSF Solo Sagrado, 268 pregnant women underwent prenatal care in 2019, 21 of them tested positive for syphilis and five of the cases evolved to congenital syphilis. In 2020, 275 pregnant women underwent prenatal care, seven of them tested positive for syphilis and only one of the cases evolved to congenital syphilis. Thus, the total study sample consisted of 33 patients, of which 28 were pregnant women and five were newborns.

Regarding to pregnant women diagnosed with syphilis, (n=11) 39.3% were in the 20-24 age group, the white and brown races were equal (n=10) 35.7%, (n= 7) 25.0% had completed high school, (n=24) 85.8% lived in the urban area and regarding the treatment of partners, (n=14) 50.0% of them did and (n=14) 50.0% did not undergo the treatment, as shown in (Table 1).

Table 1. General data on pregnant women with syphilis who belong to UBSF Solo Sagrado. São José do Rio Preto, SP, Brazil, 2019-2020 (n=28)

Variables	n = 28	100 %
Age		
15-19	6	21,4%
20-24	11	39,3%
25-29	3	10,7%
30-34	5	17,9%
35-39	3	10,7%
Race		
White	10	35,7%
Black	6	21,4%
Asian	0	0,0%
Brown	10	35,7%
Indigenous	0	0,0%
Ignored	2	7,2%
Education		
Illiterate	0	0,0%
1st to 4th grade incomplete	1	3,6%
1st to 4th grade complete	0	0,0%
5th to 8th grade incomplete	6	21,4%



Epidemiological profile of gestational and congenital syphilis in an area covered by the Pinheirinho region of São José do Rio Preto

Alves TS, Santos GZ, Ribeiro RKB, Santos AA, Mantovani TC, Oliveira KA, Rol JL, Antunes MSO, Canada MLM, Fernando FSL

Complete elementary	4	14,3%
Incomplete high school	6	21,4%
Complete high school	7	25,0%
Incomplete higher education	0	0,0%
Complete higher education	0	0,0%
Ignored	4	14,3%
Zone		
Urban	24	85,8%
Rural	2	7,1%
Ignored	2	7,1%
Partner performed treatment		
Yes	14	50%
No	14	50%

Table 2. General data of the mothers of newborns who evolved the diagnosis to CS, which belong to UBSF Solo Sagrado. São Jose do Rio Preto, SP, Brazil, 2019-2020 (n=5)

Variables	n=5	100%
Race – Mother		
White	3	60,0%
Black	1	20,0%
Asian	0	0,0%
Brown	1	20,0%
Indigenous	0	0,0%
Ignored	0	0,0%
Education - Mother		
Illiterate	0	0,0%
1st to 4th grade incomplete	0	0,0%
1st to 4th grade complete	0	0,0%
5th to 8th grade incomplete	2	40,0%
Complete Elementary	0	0,0%
Incomplete high school	3	60,0%
Complete high school	0	0,0%
Incomplete higher education	0	0,0%
Complete higher education	0	0,0%
Ignored	0	0,0%
Performed prenatal		
Yes	5	100,0%
No	0	0,0%
Ignored	0	0,0%

Of the five medical records of the newborns who were diagnosed with congenital syphilis, (n=3) 60.0% of the mothers were white, (n=3) 60.0% had incomplete secondary education and (n=5) 100.0 % underwent prenatal care, as shown in (Table 2).

Considering the clinical characterization, (n=20) 71.4% of the mothers were in the first trimester of pregnancy, as for the clinical classification, (n=15) 53.5%

were pregnant women who were diagnosed with primary syphilis, (n= 25) 89.3% of the non-treponemal tests were reactive and (n=28) 100.0% of the treponemal tests were reactive, (n=28) 100.0% of them underwent treatment with Penicillin G benzathine 7,200,000 IU and (n=10) 35.7% of the partners underwent treatment with Penicillin G benzathine 2,400,000 IU, regarding the reason for not treating, (n=24) 85.7% of the questions were ignored, as shown in Table 3.

Table 3. Clinical characterization of pregnant women with syphilis who belong to UBSF Solo Sagrado. São José do Rio Preto, SP, Brazil, 2019-2020 (n=28)

Variables	n=28	100%
Gestational Trimester		
First trimester	20	71,4%
Second trimester	5	17,9%
Third quarter	3	10,7%



Epidemiological profile of gestational and congenital syphilis in an area covered by the Pinheirinho region of São José do Rio Preto
 Alves TS, Santos GZ, Ribeiro RKB, Santos AA, Mantovani TC, Oliveira KA, Rol JL, Antunes MSO, Canada MLM, Fernando FSL

Clinical Classification		
Primary	15	53,5%
Secondary	10	35,7%
Tertiary	2	7,2%
Latent	1	3,6%
Ignored	0	0,0%
Prenatal non-treponemal testing		
Reagent	25	89,3%
Non-reactive	3	10,7%
Unrealized	0	0,0%
Ignored	0	0,0%
Prenatal treponemal test		
Reagent	28	100,0%
Non-reactive	0	0,0%
Unrealized	0	0,0%
Ignored	0	0,0%
Prescribed treatment for pregnant women		
Penicillin G benzathine 2,400,000 IU	0	0,0%
Penicillin G benzathine 4,800,000 IU	0	0,0%
Penicillin G benzathine 7,200,000 IU	28	100,0%
Another scheme	0	0,0%
Unrealized	0	0,0%
Ignored	0	0,0%
Treatment prescribed to the partner		
Penicillin G benzathine 2,400,000 IU	10	35,7%
Penicillin G benzathine 4,800,000 IU	0	0,0%
Penicillin G benzathine 7,200,000 IU	5	17,9%
Another scheme	0	0,0%
Unrealized	9	32,1%
Ignored	4	14,3%
Reason for not treating		
No longer had contact with the pregnant woman	2	7,1%
Was not communicated/summoned to US for treatment	0	0,0%
Was communicated/summoned to US for treatment, but did not attend	0	0,0%
Was communicated/summoned to the US, but refused treatment	0	0,0%
non-reagent serology	1	3,6%
Another motive	1	3,6%
Ignored	24	85,7%

Regarding the clinical characterization of the newborns, (n=5) 100.0% of the cases received a diagnosis of maternal syphilis during the prenatal period, regarding the treatment scheme during the prenatal period, the results were equal between the inadequate scheme (n=2) 40.0% and not performed (n=2) 40.0%, in addition, (n=5) 100.0% of non-treponemal and treponemal tests at delivery/curettage were positive, (n=3) 60.0% of the non-treponemal tests of peripheral blood and CSF were positive, (n=3) 60.0% of

newborns did not show CSF alteration, in terms of ascending titration, (n=3) 60.0% were negative, in the radiological diagnosis, the results were equal between negative and the ignored question (n=2) 40.0%, in relation to the treatment, the results were equal between the treatment with Penicillin G crystalline 100,000 to 150,000 IU/Kg/day - 10 days (n=2) 40.0% and treatment not performed (n=2) 40.0%, (n=3) 60.0% of newborns survived congenital syphilis, as shown in (Tables 4 and 5).

Table 4. Clinical characterization of newborns with congenital syphilis, who belong to UBSF Solo Sagrado. São José do Rio Preto, SP, Brazil, 2019-2020 (n=5)

Variables	n=5	100%
Diagnosis of maternal syphilis		
During prenatal	5	100,0%
At the time of delivery/curettage after delivery	0	0,0%
Unrealized	0	0,0%
Ignored	0	0,0%



Epidemiological profile of gestational and congenital syphilis in an area covered by the Pinheirinho region of São José do Rio Preto

Alves TS, Santos GZ, Ribeiro RKB, Santos AA, Mantovani TC, Oliveira KA, Rol JL, Antunes MSO, Canada MLM, Fernando FSL

Pregnant woman treatment scheme		
Unrealized	2	40,0%
Adequate	1	20,0%
Inappropriate	2	40,0%
Ignored	0	0,0%
Non-treponemal test at delivery/curettage		
Reagent	5	100,0%
Non-reactive	0	0,0%
Unrealized	0	0,0%
Ignored	0	0,0%
Non-treponemal test - peripheral blood		
Reagent	3	60,0%
Non-reactive	0	0,0%
Unrealized	0	0,0%
Ignored	2	40,0%
Non-treponemal test – *CSF		
Reagent	0	0,0%
Non-reactive	3	60,0%
Unrealized	0	0,0%
Ignored	2	40,0%

Table 5. Clinical characterization of newborns with congenital syphilis, who belong to UBSF Solo Sagrado. São José do Rio Preto, SP, Brazil, 2019-2020 (n=5)

Variables	n=5	100%
*CSF alteration		
Yes	0	0,0%
No	3	60,0%
Unrealized	0	0,0%
Ignored	2	40,0%
Treponemal test at birth		
Reagent	5	100,0%
Non-reactive	0	0,0%
Unrealized	0	0,0%
Ignored	0	0,0%
Ascending titration		
Yes	0	0,0%
No	3	60,0%
Unrealized	0	0,0%
Ignored	2	40,0%
Radiological diagnosis (alteration in the long bones)		
Yes	1	20,0%
No	2	40,0%
Unrealized	0	0,0%
Ignored	2	40,0%
Treatment scheme		
Penicillin G crystalline 100,000 to 150,000 IU/Kg/day – 10 days	2	40,0%
Penicillin G procaine 50,000 IU/Kg/day – 10 days	1	20,0%
Penicillin G benzathine 50,000 IU/Kg/day	0	0,0%
Another scheme	0	0,0%
Unrealized	2	40,0%
Ignored	0	0,0%
Case evolution		
Alive	3	60,0%
Death from congenital syphilis	0	0,0%
Death from other causes	0	0,0%
Abortion	2	40,0%
Stillbirth	0	0,0%
Ignored	0	0,0%

Note: *CFS: cerebrospinal fluid.

Discussion

The present study made it possible to achieve the proposed objectives, showing the epidemiological profile of pregnant women diagnosed with gestational syphilis and

newborns with congenital syphilis. Therefore, it was observed in this study that in gestational syphilis there was a predominance of 39.3% pregnant women in the age group of 20 to 24 years, with white and brown races with 35.7%



each, 25% of them completed high school complete, 85.8% lived in the urban area and 50% of the partners did not undergo treatment. In the literature, for a study¹⁸ carried out in a municipality in the region of Cariri, Ceará, 53.2% of the pregnant women were aged between 14 and 23 years old, 84.4% were brown and 54.2% had not completed elementary school. Already in a search¹⁹ in a teaching hospital, 89.47% of pregnant women lived in the urban region and only 18.42% of partners underwent treatment.

Among pregnant women, this study found that 71.4% were diagnosed with syphilis in the first trimester of pregnancy, 53.5% were diagnosed with primary syphilis, 89.3% of non-treponemal prenatal tests were positive and 100% of the treponemal tests were reactive. Regarding the treatment, 100% of the pregnant women were treated with Penicillin G benzathine 7,200,000 IU, 32.1% of the partners did not undergo the prescribed treatment, 7.1% of the partners reported that they had no more contact with the pregnant woman, therefore, did not undergo treatment.

It was observed in a research²⁰ carried out in the city of São José do Rio Preto, 41.16% of the pregnant women were in the first trimester of pregnancy, 37.63% were diagnosed with primary syphilis. A study²¹ pointed out that, in the municipality of Apucarana, 94.73% of non-treponemal tests in prenatal care were positive, 65.16% of treponemal tests in prenatal care were positive, 36.43% of pregnant women underwent treatment with Penicillin G benzathine 7,200 .000 IU, 41.70% of the partners did not undergo the treatment and 14.57% of the partners reported that they no longer had contact with the pregnant woman, therefore they did not undergo the treatment.

After analyzing the sample, it was possible to observe in the cases of congenital syphilis that 60% of the mothers were white, 60% of them did not finish high school, 100% underwent prenatal care, 100% received the diagnosis of gestational syphilis during prenatal care and only 20% of the mothers performed the treatment inappropriately. In other research, authors²² observed that in the region of Minas Gerais, 53.1% of the mothers were brown, 16.3% had incomplete 5th to 8th grade. Another study¹⁹ infers that 87.71% of the mothers performed prenatal care, 65.79% were diagnosed with maternal syphilis during prenatal care and 57.90% of mothers performed the treatment inappropriately.

With regard to the clinical characterization of newborns with congenital syphilis, this study showed that 100% of non-treponemal tests at delivery/curettage were positive, 60% of non-treponemal tests of peripheral blood were positive, 60% of non-treponemal CSF tests were positive, 60% of newborns had no CSF abnormalities, 100% of treponemal tests at delivery were positive, 60% of ascending titers were negative, and 20% of newborns had radiological changes in long bones, 40% of newborns did not undergo treatment and 40% evolved to abortion.

However, research²³ analyzed that in the city of Vitória, 89.9% of pregnant women did not undergo the non-treponemal test at delivery/curettage, 62.7% of the non-treponemal peripheral blood tests were positive, 68.6% of the non-treponemal CSF tests were negative, 60.9% had no

cerebrospinal fluid alteration and 0.6% of the treponemal tests at delivery gave a reagent, in addition, authors⁵ observed that 55.7% of ascending titers were negative. Still in the study²⁰, 63.45% of newborns had radiological changes in the long bones, 12.41% of them did not receive treatment and 8.9% evolved to miscarriage.

In view of the results analyzed, one should consider the impact of the COVID-19 pandemic, caused by the SARS-CoV-2 virus, in which the social isolation of the population may have led to a decrease in syphilis, as intimate contact has become difficult, and in this way, also making contagion difficult. On the other hand, it should be taken into account that the prioritization of preventive measures may have led to a decrease in the incidence of syphilis and, as a result of social isolation and the evolution of COVID-19, many patients stopped seeking care in Primary Health Care, making it impossible to diagnose.

In addition, prenatal care at the UBSF Solo Sagrado was impaired, as some Basic Health Units in this municipality were closed for respiratory care, which is the case at the UBSF in the present study, with this, the pregnant women had to look for service in another area of coverage, which may have occurred underreporting of a condition of compulsory notification. From the same point of view, according to a researcher²⁴, it is possible to state that the significant decrease in the number of reported cases was partly due to the pandemic, since prenatal care and testing were impaired.

Final Considerations

It is concluded that, due to the decline in cases of congenital syphilis, it was possible to observe that the measures of treatment and diagnosis during prenatal care were effective in reducing cases and survival of newborns. It is worth noting that the fetuses of pregnant women who did not undergo the treatment regimen evolved to abortion, as a result, it is extremely important that pregnant women perform prenatal care for the diagnosis of gestational syphilis and carry out the treatment regimen.

Therefore, it is assumed that the main difficulties encountered in reducing vertical transmission are associated with late diagnosis or non-treatment, or inadequate treatment of pregnant women, in addition to socioeconomic, demographic and care factors, contributing to the increase in their incidence. With that, in order to face Vertical Transmission of Chronic Communicable Diseases, the municipality of São José do Rio Preto, since March 2018, has adhered to Ordinance No. effective, since the pregnant women were assisted in another coverage area.

In view of this, this work ends by emphasizing the importance of encouraging the general population, the adoption of preventive practices, early diagnosis and treatment, as these represent the triad for reducing and nullifying the damage caused by syphilis.

Acknowledgment

Special thanks to professor Dr. Valquiria da Silva Lopes from University Center UNIRP for encouraging and supporting this study.



References

1. Ministério da Saúde (BR). Guia do Pré-Natal dos parceiros para Profissionais de Saúde [Internet]. 2018 [acesso em 23 out 2022]. Disponível em: https://bvsmis.saude.gov.br/bvs/publicacoes/guia_pre_natal_profissionais_saude.pdf
2. Silva CPV, Rocha RSM, Silva PO, Silva QF, Oliveira ES, Francisco MTR, Marta CB. Assistência pré-natal na prevenção da sífilis congênita: uma revisão integrativa. *Glob Acad Nurs.* 2022;3(Sup.1):e237. <https://dx.doi.org/10.5935/2675-5602.20200237>
3. Ministério da Saúde (BR). Boletim Epidemiológico da Sífilis [Internet]. Brasília (DF): Ministério da Saúde; 2021 [acesso em 15 abr 2022]. Disponível em: <http://www.aids.gov.br/pt-br/pub/2021/boletim-epidemiologico-de-sifilis-2021>
4. Universidade Federal do Rio Grande do Sul. Faculdade de Medicina. Programa de Pós-Graduação em Epidemiologia. TelessaúdeRS (TelessaúdeRS-UFRGS). TeleCondutas: Sífilis: versão digital 2020. Porto Alegre: Telessaúde RS-UFRGS; 2020 [acesso em 10 fev 2023]. Disponível em: <https://www.ufrgs.br/telessaude/teleconsultoria/0800-644-6543/#telecondutas-0800>
5. Gomes FT, Lima CA, Pires PLS, Oliveira SV, Calegari T. Perfil epidemiológico dos casos de sífilis congênita no estado de Minas Gerais no período de 2007 a 2017. *Sci. Plena* [Internet]. 2020 [acesso em 10 fev 2023];16(3). Disponível em: <https://www.scienciaplena.org.br/sp/article/view/5201>
6. Lobato PCT, Aguiar FESS, Mata NDS, Prudêncio LS, Nascimento RO, Braga KHM, Nemer CRB, Menezes RAO. Sífilis congênita na Amazônia: Desvelando a fragilidade no tratamento. *Revista de Enfermagem UFPE* [Internet]. 2021 [acesso em 25 mar 2022];15(1):3-4. Disponível em: <https://periodicos.ufpe.br/revistas/revistaenfermagem/article/view/245767/37548>
7. Silva NCP, Carvalho KBS, Chaves KZC. Sífilis gestacional em uma maternidade pública no interior do Nordeste brasileiro. *Femina* [Internet]. 2020 [acesso em 28 mar 2022];49:58-64. Disponível em: https://docs.bvsalud.org/biblioref/2021/02/1146935/femina_2020_491_p58-64-sifilis-gestacional-em-uma-maternidade-_5e0G9Ch.pdf
8. Ministério da Saúde (BR). Campanha Nacional de Combate as Sífilis Adquirida e Congênita [Internet]. Brasília (DF): Ministério da Saúde; 2021 [acesso em 10 jun 2022]. Disponível em: <http://aps.saude.gov.br/noticia/14217>
9. Ministério da Saúde (BR). Diretrizes para o Controle da Sífilis Congênita. Manual de Bolso [Internet]. Brasília (DF): Ministério da Saúde; 2006 [acesso em 10 abr 2022]. Disponível em: https://bvsmis.saude.gov.br/bvs/publicacoes/manual_sifilis_bolso.pdf Acesso em: 15 abril 2022.
10. Ministério da Saúde (BR). Portaria n.º 77, de 12 de janeiro de 2012. Dispõe sobre a realização de testes rápidos, na atenção básica, para a detecção de HIV e sífilis, assim como testes rápidos para outros agravos, no âmbito da atenção pré-natal para gestantes e suas parcerias sexuais [Internet]. Brasília (DF): Ministério da Saúde; 2012 [acesso em 16 jun 2022]. Disponível em: https://bvsmis.saude.gov.br/bvs/saudelegis/gm/2012/prt0077_12_01_2012.html
11. Ministério da Saúde (BR). Previne Brasil - Modelo de financiamento para a APS [Internet]. Brasília (DF): Ministério da Saúde; 2019 [acesso em 16 jun 2022]. Disponível em: <https://aps.saude.gov.br/gestor/financiamento>
12. Ministério da Saúde (BR). Portaria n.º 3.222 de dezembro de 2019. Dispõe sobre os indicadores do pagamento por desempenho, no âmbito do Programa Previne Brasil [Internet]. Brasília (DF): Ministério da Saúde; 2019 [acesso em 16 jun 2022]. Disponível em: <https://www.in.gov.br/en/web/dou/-/portaria-n-3.222-de-10-de-dezembro-de-2019-232670481>
13. Ministério da Saúde (BR). Carteira de Serviços da Atenção Primária à Saúde (CaSAPS) [Internet]. Brasília (DF): Ministério da Saúde; 2019 [acesso em 16 jun 2022]. Disponível em: https://bvsmis.saude.gov.br/bvs/publicacoes/carteira_servicos_atencao_primaria_saude_profissionais_saude_gestores_completa.pdf
14. Rio Preto. Portaria n.º 06, de 05 de março de 2018. Institui o Comitê Municipal de Enfrentamento à Transmissão Vertical das Doenças Crônicas Transmissíveis no âmbito da Secretaria Municipal de Saúde de São José do Rio Preto. Diário Oficial da Prefeitura de São José do Rio Preto. São José do Rio Preto, SP, ano XV, n. 4303.
15. DATASUS. Sífilis em gestante – Casos confirmados e notificados no Sistema de Informação de Agravos de notificação [Internet]. Brasília (DF): Ministério da Saúde; 2021 [acesso em 30 abr 2022]. Disponível em: <http://tabnet.datasus.gov.br/cgi/tabcgi.exe?sinanet/cnv/sifilisgestantebr.def>
16. Secretaria de Saúde. PAINEL DE MONITORAMENTO (Indicadores de Saúde) [Internet]. São José do Rio Preto (SP): Secretaria Municipal de Saúde de São José do Rio Preto; 2021 [acesso em 25 mar 2022]. Disponível em: <https://saude.riopreto.sp.gov.br/transparencia/arqu/painmoni/2021/8doencasnotificacaocompusoria.pdf>
17. Google Maps. Mapa criado no “My Maps” [Internet]. 2022 [acesso em 20 out 2022]. Disponível em: https://www.google.com/maps/d/u/0/edit?hl=pt-BR&mid=1HR22Z9SO2N4rFCOy-AQT_3Haxcw9lj0&ll=-20.777198058274557%2C-49.42075966968651&z=15
18. Miranda BL. Perfil epidemiológico de gestantes portadoras de sífilis em um município da região do Cariri. *Revista Epidemiológica e Controle de Infecção* [Infecção]. 2020 [acesso em 12 nov 2022];3-4. Disponível em: <https://online.unisc.br/seer/index.php/epidemiologia/article/view/14066>
19. Maraschin MS. Sífilis materna e sífilis congênita notificadas em um hospital de ensino. *Revista Nursing* [Internet]. 2019 [acesso em 12 nov 2022];22:3211. Disponível em: <http://www.revistanursing.com.br/revistas/257/pg39.pdf>
20. Lima TM, Machado ILL, Siqueira JPZ, Almeida MTG. Perfil epidemiológico de pacientes com sífilis congênita e gestacional em um município do Estado de São Paulo, Brasil. *Rev. Bras. Saúde Mater. Infant.* [Internet]. 2019 [acesso em 10 fev 2023];19(4):873-880. Disponível em: <https://www.scielo.br/j/rbsmi/a/3pCKZ5sv6CBCbtzCYgCHP3s/?lang=pt&format=pdf>
21. Silva GM, Pesce GB, Martins DC, Prado CM, Fernandes CAM. Sífilis na gestante e congênita: perfil epidemiológico e prevalência. *Enfermería Global* [Internet]. 2020 [acesso em 12 nov 2022];57:7-8. Disponível em: https://scielo.isciii.es/pdf/eg/v19n57/pt_1695-6141-eg-19-57-107.pdf
22. Amorim EKR, Matozinhos FP, Araújo LA, Silva TPR. Tendência dos casos de sífilis gestacional e congênita em Minas Gerais, 2009-2019: um estudo ecológico. *Epidemiol. Serv. Saúde* [Internet]. 2021 [acesso em 12 nov 2022];30(4):e2021128. Disponível em: <https://www.scielo.br/j/ress/a/C9HNFpTnZV4DjHJjpkkwtGP/?lang=pt&format=pdf>



Epidemiological profile of gestational and congenital syphilis in an area covered by the Pinheirinho region of São José do Rio Preto

Alves TS, Santos GZ, Ribeiro RKB, Santos AA, Mantovani TC, Oliveira KA, Rol JL, Antunes MSO, Canada MLM, Fernando FSL

23. Barcelos MRB. Sífilis congênita: análise epidemiológica e evento sentinela da qualidade da assistência ao binômio mãe/recém-nascido. *J Hum Growth Dev* [Internet]. 2022 [acesso em 12 nov 2022];4. Disponível em: <https://revistas.marilia.unesp.br>
24. Gomes NS, Prates LA, Wilhelm LA, Lipinski JM, Velozo KDS, Pilger CH, Perez R V. “Só sei que é uma doença”: conhecimento de gestantes sobre sífilis. *Rev Bras Promoc Saúde*. 2021;34. <https://doi.org/10.5020/18061230.2021.10964>

