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**Received:** 04 March, 2019

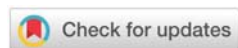
**Accepted:** 26 March, 2019

**Published:** 28 March, 2019

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<https://www.peertechz.com>

**Keywords:** Congenital syphilis; Mother-child health; Prenatal care; Public health surveillance



## Research Article

# Status of Prenatal Assistance services for Syphilis Infected Pregnant Women on Region of Baixada Santista, Sp, Brazil

## Abstract

**Objective:** To analyze the status used in prenatal assistance on pregnant women infected with syphilis, of São Vicente, general region of Santos, SP, Brazil.

**Methods:** This was a descriptive cross-sectional study, retrospective study in the medical records of 162 patientes, between 2014 and 2016, in basic health units.

**Results:** Close to 35% of the patients' partners did not receive treatment. Only 30% of the pregnant women attended the recommended consultations, and only 15% followed the monthly serological follow-up. Most of the medical records were incomplete.

**Conclusions:** The prenatal care in the study area reveals failures indicating the need greater medical staff training.

The objectives of the study were to research the methodology used in prenatal care for pregnant women with syphilis between 2014 and 2016 in that region.

## Methods

This is a descriptive, cross-sectional, retrospective study in the medical records of 162 patients, between 2014 and 2016, in basic health units.

The research was made by students from the 6<sup>th</sup> year of medical school, and guided by Infectious Diseases Department' Chairman. The information was gathered through a previously developed questionnaire including age, prenatal assistance methods, time since diagnosis, time of sequential control, VDRL titer, and other treponemal tests, case conclusion, coinfections, medication used, and sexual partner treatment. These were later transcribed to a Microsoft Office Excel chart for statistical analysis.

## Results

Most pregnant women in this study (63.5 %) were between 18 and 30 years old, and 14.7 % were teenagers less than 18 years old. In six medical records there was no age stated. About 44.4% of them were of low educational level (illiterate, complete or elementary school). Skin color was not stated in the medical records.

## Introduction

In Brazil, the vertical transmission of syphilis remains a great public health problem. Over the last years, it has increasingly become a reemerging disease, with rates of congenital syphilis of about 3 for every 12 thousand children born alive [1-3], varying in different regions of the country [5-10]. According to data from the Ministry of Health, in 2016, 87,593 cases of acquired syphilis were recorded in Brazil, 37,436 cases of syphilis in pregnant women, and 20,474 cases of congenital syphilis, and among these, 185 deaths. The larger number of cases was reported in the southeastern region (53.5% of acquired syphilis, 46.9% of syphilis in pregnant women, and 41.5% of congenital syphilis). In Brazil, the prevalence of syphilis in pregnant women is four times higher than in cases of positive acquired immunodeficiency virus (HIV) from the same group<sup>4</sup>. The general region of Santos comprises 9 cities and around 1.8 million inhabitants.

The coinfection with HIV were found in 7.4% of the cases studied, and 4.32% were coinfecting with hepatitis B. Some of the pregnant women were diagnosed with hepatitis C (0.61%) and tuberculosis (2.46%).

As to the pregnancy trimester, more than half (69.7%) of the cases were diagnosed with syphilis during the first trimester, 19.3% in the second, and 8.6% in the last trimester. In 4 of the medical records there was no information about it. The medication used for syphilis acquired during pregnancy was, predominantly, benzathine penicillin.

Of the pregnant women studied, 59.25% went to a few appointments for prenatal care, whereas 29.62% participated in all prenatal care established appointments. Only 11.13% of the seropositive pregnant women followed through with the VDRL assistance in all months of pregnancy. The study showed that 54 out of 162 (36.41%) of the partners received no syphilis treatment, against 59/162 (33.13%) who were treated; there is no information as to the remaining 49 pregnant women. Additionally, in non-monogamous situations there was no record of treatment of more than one sexual partner.

Five death reports were found in the 162 medical records, 1 mother and 4 newborns. There was no cause of death reported on the medical records.

Among the laboratory tests collected, VDRL was the most frequently requested, corresponding to 96.91%. The treponemic test was applied in 64.19% of the cases. To reduce risk, the pregnant women with VDRL titles 1:2 and 1:4 received treatment on the assumption that they had not been treated before.

Late in 2016, the quick test was introduced, albeit without causing any impact on sampling.

There are no reports in the medical records of after birth treatments or the outcomes. The full data of the 162 researched records are detailed on table 1 (demographic characteristics of the sampling) and on table 2 (prenatal care data). The absence of basic data or ineligible handwriting from the assistant doctors was marked as "Not applicable."

## Discussion

In the study, it was possible to verify the deficiencies in prenatal care, the frequent lack of specific expertise of the medical staff. The findings possibly reflect the situation in many regions of the country. Guimarães SG et al [11]. Recently evaluated the access and quality of prenatal care in different regions of Brazil and highlighted the direct correlation between good prenatal care and higher Human Development Indexes (HDI) in each state of Brazil. In the general Santos region, apart from Santos, which has the 3<sup>rd</sup> best HDI in São Paulo state, the other eight cities had low-income levels.

In the year of 2016, there were reports of 37,436 cases of syphilis in pregnant women and 20,474 cases of congenital syphilis in Brazil; among these, there were 185 deaths, according to the Ministry of Health [1,12]. Syphilis advances

**Table 1:** Sociodemographic results found in the 162 medical records of pregnant women cared for in prenatal exams, in SUS basic attention records in São Vicente, between 2014 and 2016.

DEMOGRAPHIC DATA	N	%
<b>Maternal Age (years):</b>		
<18 years old	23/156	14.7
18-30 years old	99/156	63.5
>30 years old	34/156	21.8
Not applicable*	6/162	3.7
<b>Educational Level:</b>		
Illiterate	01/141	0.7
Incomplete elementary school	45/141	31.9
Complete elementary school	26/141	18.4
High school	65/141	46.1
Higher education	04/141	13.0
Not applicable*	21/162	
<b>Marital status:</b>		
Single	55/136	40.4
Married	41/136	30.1
Divorced	02/136	1.5
Widowed	0/136	0.0
Common-law marriage	38/136	27.9
Not applicable*	26/162	16.0
<b>Occupation:</b>		
Domestic Service	92/120	76.7
Housemaid	21/120	17.5
Self-employed	07/120	5.8
Not applicable*	42/162	25.9

- \* The absence of basic data or ineligible handwriting from the assistant doctors was marked as "Not applicable."
- \* Total value and its percentage for each variables it was impaired because the handwriting in the medical records was not clear enough to read or missing information. In each item is referenced in the right column.

as a clearly neglected reemerging disease, reflected in the approach of the disease in pregnant women and its outcomes.

The assessment of prenatal care in the area studied seems to require multiple actions for adequate success, such as: medical staff training, physical structure, materials, multidisciplinary assistance, trustworthy laboratories, and patient monitoring. The deficiencies are outstanding. Medical records are often unreadable. There is a lack of basic information; in most cases, even the outcome is not reported. Demographic data is usually not recorded.

The study showed teenagers and young adult women as a higher risk group. Typically, they are single, of a low educational level, with multiple births, and without permanent jobs. In a cross-sectional study with 2,422 pregnant women undergoing prenatal care at the SUS of Rio de Janeiro, 46 had syphilis during pregnancy, resulting in 16 cases of congenital syphilis. This condition was associated with black-skinned people, teenagers, low educational levels, low social and economic conditions, late start in prenatal care, and insufficient consultations. Several other studies with similar designs confirm these sentinel events [13]. Coinfections with hepatitis B and C, HIV, and even tuberculosis were reported as well, despite more than half the records not showing notes on results, referral information, or even outcomes. It was found in the medical records of the presence of HIV in pregnant women

**Table 2:** Important aspects of the treatment of syphilis in pregnant women with 162 medical records assisted in prenatal exams, in SUS basic care units in São Vicente, between 2014 and 2016.

Co-infection:	N	%
Hepatitis B	07/24	29.2
HIV	12/24	50.0
Hepatitis C	01/24	4.2
Tuberculosis	04/24	16.7
Not applicable*	138/162	85.2
<b>Diagnosis Gestational Quarter:</b>		
First Quarter	113/158	71.5
Second Quarter	31/158	19.6
Third Quarter	14/158	8.9
Not applicable*	04/162	2.5
<b>Follow-up care:</b>		
Some gestational quarters	108/131	82.4
All gestational quarters	23/131	17.6
Not applicable*	31/162	19.1
<b>Partner Treatment:</b>		
Yes	54/113	47.8
No	59/113	52.2
Not applicable*	49/162	30.2
<b>Drugs:</b>		
Benzathine Penicilin	138/146	94.5
Oxacillin	01/146	0.7
Azithromycin	02/146	1.4
Doxycycline	05/146	3.4
Erytromycin	05/146	3.4
Not applicable*	16/162	9.9
<b>Laboratorial Tests:</b>		
VDRL	157/158	99.4
FTA-Abs	104/158	65.8
Chemiluminescence	16/158	10.1
RPR	07/158	4.4
Syphilis quick test	03/158	1.9
Not applicable*	04/162	2.5
<b>VDRL(Pre-treatment Titration):</b>		
1:2	66/152	43.4
1:4	12/152	7.9
≥1:8	74/152	48.7
Not applicable*	10/162	6.2
<b>Deaths:</b>		
Maternal	1/16	0.6
RN post childbirth	4/162	2.5
<b>Obstetric History (pregnancy) :</b>		
1	50/162	30.9
2	27/162	16.7
3	33/162	20.4
>4	43/162	26.5
*“Not applicable” indicates lack of information on medical records or because the handwriting was illegible.		
Total value and its percentage for each variables it was impaired because the handwriting in the medical records was not clear enough to read or missing information. In each item is referenced in the right column.		

with syphilis is worrisome because the presence of syphilis facilitates the transmissibility of HIV to the fetus [14,15].

An improvement in the control of the prenatal care would be the Family Health professionals coordinating medical staff who provide prenatal care.

The absence of a program focused specifically on the man,

like the important Women’s Health, program is remarkable as well. Prenatal care training programs have proved effective [16], but not very proactive in many regions of Brazil. Informatization of medical records will certainly bring welfare improvement and epidemiological efficacy.

“To be born without syphilis is a universal right”.

## Conclusions

Prenatal care in pregnant women with syphilis in the studied area showed numerous flaws in relation to the guidelines of the Brazilian Ministry of Health and International Organizations, requiring a set of technical adjustments.

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**Citation:** Focaccia R, Di Napoli PG, da Fonseca Carbonari KFBS, de Castro AA, Dias AR, et al. (2019) Status of Prenatal Assistance services for Syphilis Infected Pregnant Women on Region of Baixada Santista, Sp, Brazil. *J Gynecol Res Obstet* 5(1): 013-016. DOI: <http://dx.doi.org/10.17352/jgro.000063>