

PROFILE OF PREGNANT WOMEN DIAGNOSED WITH SYPHILIS

PERFIL DE GESTANTES DIAGNOSTICADAS COM SÍFILIS

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ABSTRACT

Introduction: Syphilis is a disease that has troubled mankind since the 15th century, and it continues to be a public health problem, especially in developing countries like Brazil. **Objective:** To outline the sociodemographic and gynecological-obstetric profiles of pregnant women diagnosed with syphilis at maternity hospitals in a municipality in the State of Ceará. **Method:** This is a descriptive study with a quantitative approach. The study was carried out in 2013, and the population consisted of 50 pregnant women with a syphilis diagnosis admitted to maternity hospitals. Data collection was obtained from prenatal care cards or booklets that were based on the instrument mentioned in Siqueira (2004). Data were analyzed through descriptive statistics, and were discussed using relevant literature as a basis. **Results:** 46.3% of pregnant women had a common-law marriage, 36% revealed having an incomplete elementary education, 30% were day workers and 86% had a monthly income of a minimum wage or less. With regard to obstetrical data, 36% had had two previous pregnancies, 18% had had an abortion, and 44% had had a diagnosis of a sexually transmitted infection some time in their lifetime. Concerning prenatal care, 88% had six or more appointments with a doctor, and only 32% completed the appropriate treatment. **Conclusion:** The young adult population has the most prevalence of syphilis, because they have little purchasing power and low levels of education. Gynecological-obstetrical data revealed previous pregnancies and a history of intercourse.

Keywords: syphilis; pregnant women; sexually transmitted diseases; vertical transmission of infectious diseases.

RESUMO

Introdução: A sífilis é uma doença que acomete a humanidade desde o século XV, porém continua sendo um problema de saúde pública, principalmente nos países em desenvolvimento como o Brasil. **Objetivo:** Traçar o perfil sociodemográfico e gineco-obstétrico de gestantes diagnosticadas com sífilis nas maternidades de um município do estado do Ceará. **Método:** Tratou-se de um estudo descritivo com abordagem quantitativa. Foi realizado durante o ano de 2013 e a população correspondeu a 50 gestantes com diagnóstico de sífilis admitidas nas maternidades. A coleta de dados deu-se pelo preenchimento de formulário elaborado com base no instrumento de Siqueira (2004), preenchido a partir dos cartões ou cadernetas de pré-natal. Os dados foram analisados por meio da estatística descritiva e discutidos com base em literatura pertinente. **Resultados:** Das gestantes 46,3% possuíam união estável, 36% ensino fundamental incompleto, 30% eram diaristas e 86% tinham renda mensal de um salário mínimo ou menos. Em relação aos dados obstétricos 36% apresentaram 2 gestações anteriores, 18% tiveram aborto e 44% diagnóstico de Infecção Sexualmente Transmissível em algum momento da vida. Sobre o pré-natal, 88% fizeram seis ou mais consultas e apenas 32% realizaram o tratamento adequado. **Conclusão:** A população mais prevalente com sífilis é jovem, com pouco poder aquisitivo e baixa escolaridade. Os dados gineco-obstétricos caracterizaram histórico de gestações anteriores e de alguma intercorrência.

Palavras-chave: sífilis; gestantes; doenças sexualmente transmissíveis; transmissão vertical de doença infecciosa.

INTRODUCTION

In Brazil, some infectious and parasitic diseases have been reduced and eradicated. However, the control of certain sexually transmitted infections (STI) is still a challenge. Although it is a disease that has troubled mankind since the 15th century, syphilis remains a public health problem, especially in developing countries like Brazil.

Syphilis is caused by *Treponema pallidum* bacteria and is categorized into three stages: primary, secondary and tertiary. The transmission of syphilis occurs due to minor abrasions during intercourse, when bacteria reach the lymph system or the blood, move on to other organs (acquired syphilis). It can also be transmitted via placenta, which is characterized as vertical transmission and occurs with untreated or inadequately treated pregnant women. The disease can happen during any stage of pregnancy, and is transmitted through the birth canal (congenital syphilis) as well.

Subsets of congenital syphilis are as follows: early, occurring up until the second year of life, and late, when diagnosed in the second year of life and beyond⁽¹⁾.

The prevalence of syphilis in pregnant women in Brazil, according to the Ministry of Health, is 1.6%. The incidence of the disease in the gestational period in Ceará rises heterogeneously, reaching 58.8 cases per thousand live births in some municipalities of the central region of the State⁽²⁾.

In Brazil, congenital syphilis and syphilis in pregnancy have been considered notifiable diseases since 1986 and 2005, respectively. According to the Reportable Diseases Information System (Sistema de Informação de Agravos de Notificação - SINAN), 5,324 cases of syphilis were reported in pregnant women from 2007 to 2015, and 8,289 of congenital syphilis were reported in the same period in the State of Ceará⁽³⁾. The number of individuals with congenital syphilis is greater than the number of pregnant women with the disease, showing that there is a high level of underreporting during the prenatal period, and undermining the real situation of syphilis in the country.

Approximately 50% of untreated or inadequately treated pregnant women can transmit syphilis to the fetus⁽⁴⁾. Vertical transmission consequences result in 25% of stillbirths and abortions, 11% of newborns, and 13% of premature babies or babies with a low birth weight⁽⁵⁾.

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Understanding this reality, the importance of maternity care, from prenatal follow-ups to maternity hospitals is evident, in order to prevent the vertical transmission of syphilis.

Maternal health indicators are considered to be very comprehensive about the social inequalities that reflect living conditions and access to social resources, such as health, education, income, work, security, and participation, amongst various groups of the population, and also show ways in which social class, gender and race/ethnicity are interlaced and operate as social determinants of health⁽⁶⁾. Therefore, it is very important that the professionals are aware and appreciate the profile of these pregnant women observed at health services for the better planning of actions addressed for them.

OBJECTIVE

To outline the demographic profile and gynecological-obstetric services of pregnant women diagnosed with syphilis in maternity hospitals of a municipality in the State of Ceará.

METHODS

This is a descriptive study with a quantitative approach,⁽⁷⁾ which was conducted in two maternity hospitals located in a municipality in the northern region of the State of Ceará. These two maternity hospitals are a regional and a State reference for the northern area of the state, which is made up of 24 municipalities. Maternity hospital A runs within a large philanthropic hospital, which is a secondary and tertiary reference. Maternity B is inserted in a midsize hospital, and it is configured as a secondary reference for the aforementioned municipalities.

The survey included women diagnosed with syphilis admitted to these hospitals in 2013. The sample consisted of 50 women.

Data was collected by filling out a form from prenatal care cards or booklets based on the instrument mentioned in Siqueira (2004)⁽⁸⁾. Aspects related to sociodemographic data, gynecological-obstetric and prenatal assistance were investigated.

The software program Statistical Package for Social Sciences (SPSS) for Windows, version 17.0 was used to store and process data organized in tables in order to calculate the frequency of the data. Data were analyzed through descriptive statistics and discussed on the basis of relevant literature.

The ethical aspects of research involving humans were complied in accordance with the n° 466/12 resolution, and approved by Protocol n.° 420,416 by the Research Ethics Committee of the Universidade Estadual Vale do Acaraú.

RESULTS

Thirty-four women diagnosed with syphilis were interviewed at Maternity A, and sixteen in Maternity B, with a total of fifty women. Pregnant women admitted came from various origins. The municipality where the maternity hospitals were located demonstrated a greater occurrence of positive cases for syphilis due to their population contingent and the greater number of admissions.

The sociodemographic data in **Table 1** shows that the average age of pregnant women was 21 to 30 years old. With regard to

their civil status, 25 of them had a common-law marriage (46.3%). Concerning education, 18 (36%) pregnant women did not complete elementary school.

Data regarding the pregnant women's occupations were as follows: 15 (30%) daily workers; 9 (18%) housewives; 5 (10%) students; 1 (2%) teacher; 2 (4%) shoe saleswomen; 4 (8%) saleswomen; and 4 (8%) other occupation; 10 (20%) revealed no occupation in the prenatal cards or booklets. Concerning family income, most of them, 43 (86%), earned a minimum wage income or less.

The gynecological and obstetrical history collected in **Table 2** observes that 18 (36%) pregnant women had 2 previous pregnancies and 19 (38%) were young primiparae. Nine cases of abortion were identified (18%), and 2 of the women who had the abortions also had a history of two miscarriages. During pregnancy, 27 (54%) women had a urinary infection and 22 (44%) had a diagnosis of a STI at some point in life.

The data involving prenatal assistance set out in **Table 3** show that 44 pregnant women (88%) attended 6 or more prenatal appointments, and 6 (12%) attended between 4 to 5 appointments during pregnancy. As for the start of prenatal care in the Health Basic Units, 28 (56%) pregnant women started the service within the first quarter of pregnancy.

Table 1 – Distribution of pregnant women diagnosed with syphilis according to sociodemographic variables in the municipalities of the northern zone of the State of Ceará. Ceará, 2013.

Variable	n	%
Age (years)		
15-20	18	36.0
21-29	28	56.0
>30	4	8.0
Marital Status		
Married	9	16.7
Single	20	37.0
Common-law marriage	25	46.3
Education		
Illiterate	1	2.0
Incomplete elementary education	18	36.0
Complete elementary education	11	22.0
Incomplete High School	10	20.5
Complete High School	9	18.0
Complete Higher Education	0	00.0
Incomplete Higher Education	1	2.0
Family income		
≤1 minimum wage	43	86.0
2 minimum wages	5	10.0
Not informed	2	4.0
Occupation		
Day worker	15	30.0
Housewife	9	18.0
Student	5	10.0
Teacher	1	2.0
Worker	2	4.0
Saleswoman	4	8.0
Other	4	8.0
Not informed	10	20.0

Table 2 – Distribution of pregnant women diagnosed with syphilis according to the gynecological-obstetric variables in the municipalities of the northern zone of the State of Ceará, Ceará, 2013.

Variable	n	%
Number of pregnancies		
1	9	18.0
2	18	36.0
3	9	18.0
4 or more	13	26.0
Not informed	1	2.0
Abortion		
Yes	9	18.0
No	41	82.0
Early neonatal death		
Yes	2	4.0
No	47	94.0
Not informed	1	2.0
Intercurrent events history		
Urinary Tract Infection		
Yes	27	54.0
No	23	46.0
Previous hypertension		
Yes	10	20.0
No	40	80.0
STI History		
Yes	22	44.0
No	28	56.0

Table 3 – Distribution of pregnant women diagnosed with syphilis according to prenatal variables in the municipalities of the northern zone of the State of Ceará, Ceará, 2013.

Variable	n	%
Number of appointments		
4 or 5	6	12
6 or more	44	88
Prenatal period		
Up to 1st Quarter	28	56
After 1st Quarter	22	44
High risk prenatal		
Yes	13	26
No	37	74
Exams		
VDRL		
1st Quarter	15	30
1st and 3rd Quarters	35	70
Gynecological Prevention		
Yes	22	44
No	28	56
Proper treatment of syphilis (up to 30 days before delivery)		
Yes	37	74
No	13	26
Partner Treatment		
Yes	38	76
No	12	24
Filling out cards/booklets		
Complete	16	32
Incomplete	34	68
Health Education		
Yes	13	26
No	37	74

Regarding laboratory tests and imaging, 100% of the prenatal care requested Rh factor blood typing, HIV, TPHA and ultrasonography (US) tests up to the 20th week of pregnancy. Most pregnant women, 31 (62%), undertook complete blood testing only in the first quarter, and the exams completed in the first and third quarters were the following: VDRL 35 (70%); fasting glycaemia, 25 (50%); urine contents, 25 (50%). Only 22 (44%) cards or booklets documented that the women received a pap smear.

Only 38 (76%) partners received adequate treatment. The monthly cure control through VDRL was applied to 28 (56%) pregnant women. However, 13 (26%) of them did not conclude treatment 30 days before delivery. Therefore, only 16 (32%) women were considered properly treated.

With respect to registration information, 34 (68%) of the cards or booklets of the pregnant women were partially completed, and 31 (62%) described explanations concerning the importance of the prenatal booklet or card.

Advice about STIs and AIDS was listed in 22 (44%). There were records of health education activities or lectures in only 13 (26%) of the cards or booklets, and the record of monthly visits to the community health agent was recorded for 38 (76%) pregnant women.

DISCUSSION

The average age range of pregnant women was from 21 to 30 years old. In research conducted in a hospital in the capital of the State of Roraima (Boa Vista) and in the city of Campo Grande, in Mato Grosso do Sul State, the age range is similar to that found in maternity hospitals in the municipality of this study^(9,10). It was also noted that a high number of teenagers are diagnosed with the disease, establishing a connection with studies conducted in other areas^(11,12).

As for marital status, most women, 25 (46.3%), had common-law marriages, followed by 20 (37%) single women. Unlike the research carried out in the city of Natal, the capital of the State of Rio Grande do Norte, the marital status of mothers (86.2%) that had their children diagnosed with congenital syphilis, was single⁽¹³⁾.

Only one pregnant woman from the survey had a professional occupation that required a higher level of education. Having a low level of education arises as an important factor in the profile of women diagnosed with syphilis, because it influences their sexual behavior. Similar is true with regard to family income. 86% of mothers were identified as having an income that was equal to or less than the minimum wage.

The sociodemographic profile resulting from this study indicates that the population that suffers from the disease consists of young pregnant women with a monthly income of less than or equal to the minimum wage, with a low level of schooling, and an informal occupation. The literature associates these factors with positive serology for syphilis^(9,12,14,15).

The negative association between syphilis, pregnancy and abortion history is already known. Studies associate syphilis in pregnancy with fetal losses that occur in the first and second quarters, since abortion is understood to be one of the expected outcomes^(9,16).

A history of STI is among the risks for seropositivity for syphilis. Moreover, infections that cause skin ulcers and mucous membranes

encourage HIV infections⁽¹⁷⁾. Therefore the recurrence of sexually transmitted infections can be caused by having multiple partners or by having one partner that was not treated. Therefore, prenatal assistance strengthens health education activities, such as guidance on syphilis and its treatment.

The interdependence between the unfavorable sociodemographic conditions, low-level of education and low family income, combined with a previous history of clinical reproductive interurrences and obstetrical diseases, point to risk situations and vulnerability experienced by the pregnant women with these conditions. The conditions may involve the limited access to health services, health education and prenatal care.

The variables related to prenatal care revealed that the booklets were not completely filled out. The card or booklet should contain all information relating to maternal health, child development, test results, treatments and medications. This information is essential for prenatal assistance and can contribute to the promotion of maternal and child health and the reduction of mortality⁽¹⁸⁾.

In this study, 44% of pregnant women had their first prenatal appointment after the first quarter of pregnancy, and 12% attended less than 6 appointments. A research study conducted in Belo Horizonte from 2010 to 2013 showed higher numbers, 51.6 and 34.8%, respectively⁽¹⁶⁾. The Health Ministry recommends that prenatal consultations should start as early as possible during the first trimester of pregnancy, and should be regular, so that all of the proposed evaluations are carried out. In addition, the total number of prenatal appointments should be a minimum of 6, and should include attention from a health professional, a doctor, and a nurse. It is necessary that both the maternity card as well as the perinatal record are completely filled out⁽¹⁹⁾.

The VDRL tests did not occur according to the proposal from the Ministry of Health. Monitoring the treatment of syphilis in pregnant women should be done monthly with titration⁽¹⁾. Health professionals must request the necessary exams for the best prenatal follow-up and ensure health services results in a timely manner to facilitate decision-making.

The Clinical Therapeutic and Guidelines Protocol for the Prevention of the Vertical Transmission of HIV, Syphilis, and Viral Hepatitis reveals that the treatment of syphilis in pregnant women is considered to be inappropriate if it is not carried out with benzathine penicillin, if it is incomplete or inconsistent with the clinical stage of the disease, if it is performed after a period of up to 30 days before delivery, or if the partner is not treated or inappropriately treated⁽¹⁾.

74% of pregnant women received treatment properly and 26% were unable to receive treatment in the proper amount of time. In the city of Cascavel, located in the State of Paraná⁽¹¹⁾, the percentage of women with inadequate treatment was higher, about 43.7%. 76% of the partners were treated. Similar numbers were found in Hildebrand's⁽¹⁰⁾ research, which verified that 72% of partners underwent treatment and 63% of the pregnant women succeeded in treating syphilis.

One of the strategies used to qualify and expand the access to the syphilis diagnosis to pregnant women during prenatal concerns the strengthening of the structuration of assistance networks to STI

with the introduction of the rapid diagnosis test for syphilis, allowing the adoption of immediate procedures to the vertical prevention and transmission of the disease⁽²⁰⁾.

Only 26% of the pregnant women participated in health education activities. It is essential that these women learn about the disease, their condition in addition to their child's condition. Therefore, more educational campaigns should be developed in order to alert the population about the impact of syphilis. Assistance should be more effective, and involve health professionals' multidisciplinary teams, such as the ones at the Family Health Support Center (Núcleo de Apoio à Saúde da Família - NASF) and the Multi-professional Residency in Family Health (Residência Multiprofissional em Saúde da Família - RMSF).

Information involving their experiences with pregnant women and also their knowledge must be shared with professionals in order to create an environment of mutual trust.¹⁹ Having health education centers adopt prenatal care is essential, since pregnant women can listen and talk about their experiences and perceptions regarding pregnancy and other subjects involving children, women and family health.

CONCLUSION

Syphilis during pregnancy remains a public health problem that requires special attention due to its contribution to the promotion of maternal and perinatal morbidity and mortality indicators. In this study, the young adult population had the highest prevalence of syphilis, since they have little purchasing power and a low-level of education. Gineco-obstetrical data demonstrated previous pregnancies and complication history. Some variables with potential for the improvement of prenatal care was found, such as proper filling and strengthening of card records, participation in health education and greater treatment adhesion.

The development of actions aimed at this population is essential. They should focus on the promotion of safe sex, pregnant women health education, awareness of STIs for women in their reproductive age and their partners, as well as to strengthen the link.

Therefore, professionals who provide assistance to this population need to develop other studies that address the profile of women infected with syphilis, so that the results can contribute to the planning of new actions.

Conflict of interests

The authors declare no conflict of interests.

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