Evaluation of the compliance with the goals proposed by the World Health Organization for the elimination of congenital syphilis from a University Hospital of Rio de Janeiro, Brazil

Avaliação do cumprimento das metas propostas pela Organização Mundial da Saúde para a eliminação da sífilis congênita em um hospital universitário do Rio de Janeiro

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ABSTRACT

Introduction: The World Health Organization (WHO) considers Brazil as one of the 15 priority countries for the control of syphilis among pregnant women due to the high prevalence of the disease and the large population of the country. Despite the easy prevention and treatment of the disease, its progress in the country is epidemic. The disease is responsible for more than 300,000 fetal and neonatal deaths, and 520,000 fetal adverse outcomes annually in the world. **Objective:** To verify if the goals proposed by WHO for the elimination of congenital syphilis are being fulfilled in the pregnant women assistance. **Methods:** Cross-sectional study with data collected from laboratories, medical records and questionnaires of 79 parturients with the disease hospitalized at the Pedro Ernesto University Hospital (HUPE) of the Universidade do Estado do Rio de Janeiro (UERJ), Perinatal Nucleus, in Rio de Janeiro, Brazil, between 2012 and 2014. **Results:** The incidence of congenital syphilis in HUPE was the following: 26.6 cases per 1,000 live births (LB). The average age of pregnant women was 26 years, most non-white (81%), single (82.1%), and less than nine years of education (57.7%). History of previous sexually transmitted infections (STI) was reported by 35.4% (28/79) and 20% showed (16/79) Human Immunodeficiency Virus (HIV) coinfection. The majority (72.2%) did not use condoms regularly. In the evaluation of the goals recommended by WHO, only the enrolment reached 92.4% (90% goal), 87.3% of the participants were tested (90% goal), 72.2% of the pregnant women were treated (100% goal), 51.0% of them were treated before the 24th week of gestation (80% goal) and 19.0% of partners treated the disease (80% goal). Regarding the condom use orientation during prenatal care, 52.5% of the parturients confirmed the use of the preservative (100% goal). **Conclusion:** The basic and strategic rules defined by WHO for the control of congenital syphilis in the country have not been accomplished to the daily loss of thousands of opportunities to save lives during prenatal care.

Keywords: syphilis; pregnancy; prenatal care; prevalence.

RESUMO

Introdução: O Brasil é considerado pela Organização Mundial da Saúde (OMS) um dos 15 países prioritários para o controle da sífilis entre as gestantes, pela alta prevalência da doença e grande população do país. Apesar de fácil prevenção e tratamento, a doença avança no país, que vivencia uma epidemia. É responsável anualmente no mundo por mais de 300 mil mortes fetais e neonatais e 520.000 desfechos adversos fetais. **Objetivo:** Verificar se as metas propostas pela OMS na eliminação da sífilis congênita estão sendo cumpridas na assistência das gestantes. **Métodos:** Estudo de corte transversal com dados coletados nos laboratórios, prontuários e questionários de 79 parturientes com a doença internadas no Núcleo Perinatal do Hospital Universitário Pedro Ernesto (HUPE), da Universidade do Estado do Rio de Janeiro (UERJ), no Rio de Janeiro, entre 2012 e 2014. **Resultados:** A incidência de sífilis congênita no HUPE foi de 26,6 casos a cada 1.000 nascidos vivos (NV). A média de idade das parturientes infectadas era de 26 anos, e elas em sua maioria eram não brancas (81%), solteiras (82,1%) e tinham menos de nove anos de estudo (57,7%). História de infecções sexualmente transmissíveis (IST) prévia foi relatada por 35,4% (28/79) e 20% tinha (16/79) coinfecção pelo vírus da imunodeficiência humana (HIV). A maioria (72,2%) não fazia uso regular de preservativos. Na avaliação das metas recomendadas pela OMS, somente a captação alcançou 92,4% (meta 90%). Foram testadas 87,3% das partipantes (meta 90%), tratadas 72,2% das gestantes (meta 100%), sendo 51,0% antes da 24.ª semana de gestação (meta 80%), e tratados também 19,0% dos parceiros (meta 80%). Em relação à orientação sobre o uso de preservativos durante o pré-natal, 52,5% o confirmou (meta 100%). **Conclusão:** As regras básicas e estratégicas definidas pela OMS para o controle da sífilis congênita no país não estão sendo cumpridas, o que leva diariamente à perda de milhares de oportunidades de salvar vidas durante o pré-natal.

Palavras-chave: sífilis; gestação; assistência pré-natal; prevalência.

INTRODUCTION

The World Health Organization (WHO) estimates the annual occurrence in the world of 357 million cases of sexually transmitted infections (STI), such as chlamydia, gonorrhea, syphilis and trichomoniasis[1].

Syphilis has a notable importance, as it can contaminate the fetus in any stage of pregnancy by transplacental route and cause adverse

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fetal outcomes, such as natimortality, stillbirth, low-birth weight, prematurity, fetal malformations, deafness, neurological impairment and active infection at birth.

According to the 2013 WHO's bulletin, 1.9 million pregnant women were infected with the disease in the world, with 66% of occurrence of unfavourable outcomes in cases of untreated syphilis[2]. Syphilis in pregnancy is annually responsible for more than 300,000 fetal and neonatal deaths, and 520,000 adverse fetal outcomes worldwide[3].

The percentage of pregnant women with syphilis diagnosed and treated in the world is still not accurate, but global estimates suggest less than 10% of coverage for the diagnosis and treatment of the disease during pregnancy[4,5].

Brazil is considered by WHO one of the 15 priority countries for the control of syphilis, due to the high prevalence of the disease and the large population of the country[6].

The National Notifiable Disease System (Sistema de Informação de Agravos de Notificação ¾ SINAN) reported the total of 227,663 cases of acquired syphilis in the period from 2010 to June 2016 in Brazil. Parallel to the increase in the number of syphilis cases in the adult population, an increase in the number of notifications of the disease among pregnant women occurred in the country. From 2005 to June 2016, 169,546 cases of syphilis in pregnant women were notified to SINAN, 42.9% of them in the Southeast, 21.7% in the Northeast, 13.7% in the South, 11.9% in the North, and 9.8% in the Midwest[1].

The upward curve of syphilis in pregnant women in Brazil is worrying. We are living an epidemic of the disease, as revealed by the Ministry of Health in 2016. The detection rate of the disease has increased 95% in Brazil between 2012 and 2015: 0.59% in 2012; 74% in 2013; 0.97% in 2014; and 1.15% in 2015. From 2005 to 2013, the increase of syphilis cases in pregnant women was by 1,047%[7,8], and was the double from 2010 to 2014[1].

High rates of syphilis in pregnant women mean high incidence of congenital syphilis and millions of missed opportunities. In the last 10 years, the syphilis infant mortality rate has increased 150% in Brazil — from 2.2 per 1,000 born-alive (BA) in 2004 to 5.5 per 1,000 BA in 2003[8]. From 1998 to June 2016, 142,961 cases of congenital syphilis in children under 1 year of age were reported to SINAN. Of them, 64,398 (45.0%) were in the Southeast, 44,054 (30.8%) in the Northeast, 14,300 (10.0%) in the South, 11,846 (8.3%) in the North, and 8,363 (5.8%) in the Midwest[1].

In Brazil, regional works demonstrate significant differences in the prevalence of the disease in accordance with the studied region. The rates range from 0.4% in Itajaí (Southern)[8] and Vitória (Southeast)[9] to 7.7% in Fortaleza (Northeastern)[10]. In the same states, but in different cities, there are also significant differences, such as in Salvador (0.9%)[11] and Vitória da Conquista (2.8%)[12], both located in the state of Bahia, in the Northeast. There are cities with low prevalence in the country where the disease is under control, and others where the disease is epidemic, indicating that there is no uniformity of syphilis distribution in Brazil.

In Brazil and in the world as well, the increased incidence of congenital syphilis (CS) and its serious consequences, such as natimortality, contrast with the occurred with HIV, that has been reducing its transmission rate despite the complex and expensive clinical treatment protocols[3].

In Brazil, it was observed that 51.6% of pregnant women with syphilis were in the age group of 20 to 29 years, 46.7% declared being brown race/color, and 20.9% reported education from 5th to 8th incomplete grade[1].

WHO recommends enrolling and testing at least 90% of pregnant women for the effective control of the disease and treating a proportion exceeding 80% of the partners, as well as 100% of pregnant women. Among pregnant women treated, at least 80% of those who have been contaminated at gestational age should receive treatment before the 24th week of pregnancy. It is also necessary to provide treatment programs for all partners of pregnant women infected, as well as guidance on the use of condom and advice on ways of preventing the disease[13].

OBJECTIVE

To verify if the goals proposed by WHO to eradicate congenital syphilis in these patients assistance are met.

METHODS

Study design

Cross-sectional study.

Studied population

A total of 2,041 pregnant women were enrolled after admission to a public hospital in the metropolitan region of the city of Rio de Janeiro, from January 2012 to December 2014. The institution involved in the study was the HUPE of the UERJ.

Data collection

At HUPE, blood samples are routinely collected for syphilis investigation upon admission, with both non-treponemal testing (Venereal Disease Research Laboratory — VDRL) and confirmatory treponemal test (Treponema Pallidum Hemaglutination — TPHA). The confirmation via treponemal test is important due to a possible false-positive result. All the tests are performed in the clinical analysis laboratory of HUPE. According to the Brazilian Ministry of Health protocol, blood samples are collected for syphilis testing from all parturients. An active search for syphilis serology results (treponemal and non-treponemic tests) with the respective titrations was conducted by accessing the database of the hospital laboratory. A thorough review of the medical records of the pregnant women and their newborns was also conducted. The data from the HUPE epidemiology service was evaluated in order to identify the total number of infected pregnant women and newborns to avoid underestimating the results. A survey was conducted on the state's Department of Health website to collect data on syphilis reports during pregnancy, as well as reports of congenital syphilis on the SINAN and the number of live births

in the Live Births Notification System (Sistema de Informações sobre Nascidos Vivos — SINASC).

Inclusion criteria

The following parturients were eligible for the study: pregnant women admitted for delivery with a live fetus of any gestational age and weight, stillbirths with gestational age ≥22 weeks or weight ≥500 grams. The following cases were defined as syphilis during pregnancy: parturients admitted with laboratory evidence of positive VDRL (any titer) collected at the time of admission and confirmed by the treponemal test; parturients' infant (stillbirth or live birth) reported as a case of CS, identified in any of the information systems consulted.

Exclusion criteria

The following parturients were excluded: the ones with positive VDRL resulting from previous syphilis adequately treated (complete treatment with benzathine penicillin, according to the clinical stage of the disease, complete treatment of the partner, documentation confirming the couple's treatment, drop in VDRL titers after adequate treatment, treatment completed more than 30 days before delivery).

Variable definition

The following situations will be included as CS cases: all the gestation occurences (live-born or stillborn) identified in any of the information systems as premature congenital syphilis; all newborns with VDRL titers higher than the maternal ones; and all newborns with clinical manifestations suggestive of clinical or complementary CS tests[14].

The socio-demographic variables studied were the following: age, ethnicity, marital status, education, drug use, alcoholism, and smoking. Less than nine years of study was considered low educational level. The sex and reproductive variables evaluated were as it follows: age of sexarch, condom use during pregnancy, history of STI, gestational age of the first pregnancy, number of pregnancies, parity, and number of previous abortions. The following Ministry of Health recommendations were considered: appropriate treatment of pregnant women during prenatal care when done with benzathine penicillin according to the clinical stage of the disease and before 30 days of childbirth; partner considered treated after receiving proper treatment to the clinical phase of the disease and performing serological examination[15].

WHO recommendations considered suitable for the control of congenital syphilis are the following: capturing and testing 90% of pregnant women, treating 80% of partners and 100% of pregnant women (80% before the 24th week), and providing advice to all pregnant women concerning the use of condom in pregnancy[6].

Epidemiological definitions

Following the Ministry of Health recommendation for the calculation of the CS incidence, the number of CS cases identified in the study was used as the numerator and the number of live births at that location and period, multiplied by 1,000, as the denominator[16].

Ethical aspects

This research complies with the Declaration of Helsinki and the Brazilian National Health Council (Conselho Nacional de Saúde — CONEP) Resolution no. 466/2012. The project was approved by the UERJ Research and Ethics Committee (COEP), under the no. 034.3.2012. Written informed consent was obtained from all the subjects and from the legally authorized representatives of the minors who agreed to take part in the research. Anonymity and data confidentiality were guaranteed.

RESULTS

The incidence of CS was 22.0 per 1,000 LB in 2012, 17.0 per 1,000 LB in 2013, and 44.8 per 1,000 LB in 2014.

The socio-demographic profile of pregnant women with syphilis showed that women ages ranged from 13 to 45 years, with average of 26 years, with 17.0% under the age of 19 years and 13.9% more than 35 years. Most of them were non-white (81.0%), had less than nine years of education (57.7%), and were single (82.1%). Of them, 10.9% reported drug use, 15.4% alcoholism, and 29.2% smoking (**Table 1**).

Our research showed that 35.4% of women had previous history of STI. Among them, 16 (20.0%) had HIV co-infection. Other STI reported were gonorrhea and human papilloma vírus (HPV). Most of them (72.2%) did not use condoms regularly; only 27.8% reported constant use, and 53.7% occasional (**Table 2**).

Regarding the assistance coverage, 92.4% of pregnant women were assisted during the prenatal period. Gestational age of prenatal onset varied between 5 and 36 weeks. The average start of prenatal care was 17.1±8.0 weeks. Gestational age of testing for syphilis during pregnancy ranged between 6 and 36 weeks with the average of 20.0±8.8 weeks.

Table 1 – Socio-demographic parturients profile.

Variable	Category	Frequency/n	% (CL 95%)
Age (years)	<19	14/79	17.7 (10.0–27.9)
(13–45 years)	19–35	54/79	68.0 (56.9–78.4)
μ=(26.4±7.3)	≥35	11/79	13.9 (7.2–23.5)
Ethnicity	Caucasian	15/79	19.0 (11.0–29.4)
	Non-caucasian	64/79	81.0 (70.6–89.0)
Education (years)	>9	33/78	42.3 (31.2–54.0)
	≤9	45/78	57.7 (46.0–68.8)
Marital status	Other	14/78	17.9 (10.2–28.3)
	Single	64/78	82.1 (71.7–89.8)
Drug use	No	57/64	89.1 (78.8–95.5)
	Yes	07/64	10.9 (4.5–21.2)
Alcoholism	No	55/65	84.6 (73.5–92.4)
	Yes	10/65	15.4 (7.6–26.5)
Smoking	No	51/72	70.8 (58.9–81.0)
	Yes	21/72	29.2 (19.0–41.1)

CL: confidence limit.

In relation to the treatment of women in labour, 72.2% received proper treatment during the prenatal period. The treatment was carried out between the 6th and 38th week of pregnancy. The average gestational age of the treatment was 23.9±9.4 weeks.

Concerning the treatment of the partner, it was adequate for just 19%. The only rule recommended by WHO complying with the assistance of pregnant women was the enrolment, which reached 92.4% (90% goal).

With respect to testing, treatment of pregnant women and their partners, the rates were lower than those ones indicated by WHO. Of all, 87.3% were tested (90% goal), 72.2% were treated (100% goal) and 19.0% of partners treated (80% goal). Besides not having achieved the goal in relation to the treatment of women in labour, only 51.0% of women were treated before the 24th week of gestation (80% goal). In reference to the guidance on use of condoms during the prenatal period, 52.5% of women reported being orientated on the need of the use of condom during the prenatal period (100% goal) (**Table 3**).

Table 2 – Sexual and reproductive history of infected parturients.

Variable	Category	Frequency/n	% (CL 95%)
Previous STI story	Yes	28/79	35.4 (25.0–47.0)
	No	51/79	64.6 (53.0–75.0)
Regular condom use	Never	29/54	18.5 (39.6–67.4)
	Occasionally	10/54	53.7 (9.3–31.4)
	Always	15/54	27.8 (16.5–1.6)
Prior abortion	<1	54/74	73.0 (61.4–82.6)
	≥1	20/74	27.0 (17.4–38.6)
Age at first gestation (years)	<20	37/64	57.8 (44.8–70.1)
(11–42 years) μ=(20.0±6.4)	≥20	27/64	42.4 (29.9–55.2)
Sexarch (years)	<15	34/64	53.1 (17.3–37.7)
(7–21 years) μ=(14.5±2.7)	≥15	30/64	46.9 (34.3–59.8)
Parity	>1	58/79	73.4 (62.3–82.7)
(0–6) μ=(3.0±2.0)	≤1	21/79	26.6 (17.3–37.7)

CL: confidence limit; STI: sexually transmitted infections.

Table 3 – Evaluation of the goals proposed by World Health Organization (WHO) in the eradication of syphilis at Pedro Ernesto Universitary Hospital (HUPE).

Variable	WHO goal (%)	Result found % (95%CI)
Enrollment	90	92.4 (82.4–97.2)
Prenatal testing	90	87.3 (78.0–93.8)
Pregnant women treatment	100	72.2 (60.9–81.7)
Treatment <24 weeks	80	51.0 (36.6–65.2)
Partner treatment	80	19.0 (11.0–29.4)
Guidance on condom use	100	52.5 (39.1–65.7)

95%CI: interval of confidence of 95%.

DISCUSSION

The WHO and the Pan-American Health Organization (PAHO) define the elimination of congenital syphilis as the occurrence of 0.5 or less cases of congenital syphilis for every 1,000 live births[17,18].

The high incidence of congenital syphilis (26.6 per 1,000 LB) found in this study demonstrates the fragility of the country's health system in eradicating syphilis. The number is higher than the one described in our state in 2015 (16 per 1,000 LB)[7] and at least five times greater than the incidence of the disease in Brazil, according to the Estudo Nascer (3.51 per 1,000 LB)[19].

The incidence of congenital syphilis found in this study was more than 50 times higher than the Ministry of Health's elimination goal recommended by WHO and PAHO to eradicate the disease[20].

In relation to the demographic profile of the infected women, the average age of 26 years was similar to that one found in other studies with national representation, such as those by Cunha and Merchan-Hamann[21] and Domingues et al.[22] (25.2 and 25.7 years, respectively). About the age group, 17.7% were under 20 years, less than the number described in the 2015 epidemiological bulletin, which showed 24% of pregnant women with syphilis below that age[14].

The majority of women with syphilis were white (81%), which is justified by the fact that black or brown population tends to have lower income, less access to education and less qualified health care in the country[14,21,23].

On the other hand, when the frequency of non-white women compared to white women was considered, it was observed that in 2014, in the state of Rio de Janeiro, only 19.6% (5,626) of the 28,693 live births in establishments administered by the state sphere were of white mothers[24]. This proportion, which refers to public hospitals, as presented in this study, approaches the frequency found in our observation. This seems to indicate that in the present study the large proportion of non-white mothers is in fact a characteristic of the population assisted in the hospital units studied rather than a feature associated with the disease itself.

Corcerning the level of education similar to our study (<9 years/57.7%), other authors related the positivity of syphilis with lower education level[10,14,21]. Mothers of children with congenital syphilis have a lower educational level when compared to pregnant women in general[14]. The low educational level is related to less access to information, limited understanding of the importance of health care, and disease prevention measures[23].

In maternity hospitals administered by the state of Rio de Janeiro, however, in 2014, 27,247 of 28,693 women who gave birth to living children (95.5%) had from zero to 11 years of education, showing that the population assisted by these units is characteristically of less education than the set of all parturients of the state (81.6%)[24].

Most women were single (82.1%) and had no regular partner, demonstrating that sexual behavior may be related to a higher risk of acquiring a STI. Nonato et al. found similar results and estimated that 69.5% of patients did not live with their partners[23]. However, when the marital state of pregnant women assisted in maternity hospitals managed by the state of Rio de Janeiro in 2014 was evaluated, it was observed that 22,946 out of

28,693 mothers of live births (80%) were single[24]. Once again, it suggests that the population assisted in the maternity hospitals under this stydy showed that this feature is not specifically related to the disease itself.

It was not verified in our study the relationship between the use of drugs (alcohol, tobacco or illegal drugs) and syphilis. Casal et al. describes this association[25]. Nevertheless, information bias may have occurred, as we cannot guarantee that the majority of the women reported the reality when questioned about the use of illicit drugs.

The facts that the majority of pregnant women with syphilis do not use condom and 35.4% of women have reported previous history of STI are signals for the need of a careful guidance of pregnant women on ways of preventing not only syphilis, but also other sexually transmitted diseases. The emphatic guidance on the risk of STI and their ways of prevention, although essential, is still an obstacle in the control of the disease, since many professionals do not feel free to approach this subject with their female patients[25]. By providing advice to these pregnant women, we increase the chance of partners assistance at the health service, which is an essential issue for the syphilis control[26].

Among the pregnant women studied, 20% had co-infection with HIV. This is similar to other international studies that describe this relationship[27,28]. Regarding the relationship between syphilis and sexual behavior of patients, we also noted that more than half of the patients got pregnant before 20 years of age and sexarch before 15 years of age, which confirms the described by Casal et al.[25] and Manda et al.[28], who demonstrated a greater chance of syphilis in patients with sexarch before 16 years.

With regard to obstetric antecedents, 27% of women reported prior abortion and 74.4% related at least one previous pregnancy, differing from the studies by Nonato et al.[23] and Emmanuel et al.[29], which showed a negative association between previous abortions or pregnancies and syphilis, suggesting that the history of a previous obstetric event protects these pregnant women from the disease.

A possible limitation of this study is some secondary data acquired in medical records and, therefore, dependent on who made the registry, although we tried to acquire information from many different sources to confirm the data and avoid this tendency.

We have not fulfilled the strategic rules set by WHO in the testing, treatment of the couple and guidance on condom during prenatal assistance. In case these basic strategies are not urgently taken, we will not be able to eliminate the congenital syphilis in the country.

Although prenatal coverage had reached 92.4%, it was not enough to ensure CS control, which was also noted by Campos et al.[30].

Regarding testing for syphilis, our study estimated that 12.7% of women were not tested during pregnancy. The coverage found was similar to other studies in Brazil, describing coverage close to 90%[22,31]. This testing failure causes a direct impact in the increasing prevalence of the disease. It is known that women who initiate early prenatal care, have tested in the first two quarters and receive early appropriate intervention have a higher chance of generating a healthy child[32]. The offer of antenatal qualified services changes the outcomes, and its absence can elevate the perinatal mortality by up to five times. The reduction of the stillbirth and natimortality is 46 and 42%, respectively, when these women are tested and properly treated[32].

Universal prenatal screening of pregnant women can reduce 64,000 fetal deaths in the world each year, 25,000 neonatal deaths, 32,000 cases of CS, prevent loss of 2.6 million days of life and save US$ 20,8 millions in medical costs[33].

According to WHO, 95% of pregnant women until 2013 had undergone tests for syphilis during the prenatal period in 42 countries. However, in more than 40 countries less than 50% of them were tested[6].

With regard to treatment, although the testing had reached 87.3% of women in labour, only 72.2% of them with average gestational age of 24 weeks received proper treatment during the prenatal period. Maternal syphilis treatment reduces the risk of congenital infection, but does not eliminate it, and the earlier the treatment, the lower the chances of mother-to-child transmission[30].

Although the data from Ministry of Health point out that, despite the majority of mothers of children with congenital syphilis have had access to prenatal care and received a diagnosis of syphilis during pregnancy, the vertical transmission of syphilis was not interrupted due to the difficulty in treating these pregnant women. Among the obstacles to treatment, there is the low administration of penicillin in pregnant women during prenatal care, despite the slight increase in the application of penicillin G benzathine in the basic health units — from 50.4% to 53.6% —, between the first and second half of 2014. In the second half of 2014, there were problems in the supply of raw materials and diluents for the manufacture of the medication. In spite of the laboratories' affirmation that the supplies problem was resolved, the distribution to states and municipalities still follows a slow schedule due to the repressed demand and the increase of requests[7].

The low coverage in the treatment of the partners was similar to that one found by national studies, demonstrating the inadequacy of the treatment[14,34]. Congenital syphilis notifications in the state of Rio de Janeiro was still smaller than our coverage, identifying that only 10.3% of pregnant women had their partners treated[35]. According to Campos et al.[36], the need of treatment is notified by the woman herself in 78.6% of the cases. The lack of reference to attention, care and counseling of these partners is one of the main reasons responsible for the failure of this treatment[25]. Approximately 40% of the health professionals reported some difficulty in the partner approach, although 70% have participated in the training in dealing with the disease in the last five years[37].

In the context of social inequalities related to the prevalence of the disease, the low quality prenatal assistance aggravates the situation of syphilis in the country[21]. The evaluation of pregnant women prenatal care and the treatment of the partner are great tools to identify factors related to the maintenance of the high prevalence of the disease and provide the basis for the creation of strategies to correct the problem.

Unlike expected, syphilis, a sexually transmitted disease caused by aetiological agent well set with easy-to-interpret diagnostic tests, effective treatment and effective prevention, advances in the country and in the world. It is up to us, health professionals, who live daily with this sad reality, eradicate congenital syphilis by esteeming the excellence of our pregnant women assistance. By then thousands

of babies will continue dying. In the middle of the 21st century, the epidemic of syphilis in pregnant women and CS is still ignored and underestimated by all of us.

CONCLUSION

Despite being a high complexity and a reference hospital in a major city and its metropolitan region, the CS numbers and pregnant women characteristics of each registered case reveal the abyss of public health care, increased by the fact that the strategic and basic rules set by WHO for the control of CS in the country are not being met, driving daily to the loss of thousands of opportunities to save lives during the prenatal period.

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Conflict of interests

The authors declare no conflict of interests.

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