https://doi.org/10.47822/bn.v14i2.1241
ISSN 2526-6349 *On-line version*
ISSN 2175-1943 *Print version*

Original article

Congenital syphilis from the nurse's perspective

A sífilis congênita sob a ótica do enfermeiro

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Abstract

Objective: to understand nurses' perceptions of congenital syphilis in a hospital context. **Materials and Methods**: cross-sectional, qualitative, descriptive research carried out in a teaching hospital located in Montes Claros, Minas Gerais, Brazil. The participants of the research were nurses who worked for at least one year in a maternity ward, pediatrics, neonatal intensive care unit or intermediate care unit. **Results:** all participants stated that they had noticed an increase in cases of congenital syphilis in their work environments. The factors that contributed to the increase in the number of cases cited were: social, economic, behavioral factors and non-adherence to treatment. **Final considerations:** the need for effective implementations to control gestational syphilis and reduce the number of diseases in newborns was perceived. The importance of health education actions was evident in order to pass on correct information regarding forms of prevention, treatments, and transmission.
Keywords: Nurse. Congenital syphilis. Newborn.

Resumo

Objetivo: compreender a percepção dos enfermeiros sobre a sífilis congênita em um contexto hospitalar. **Materiais e Métodos:** pesquisa transversal, qualitativa, descritiva, realizada em um hospital-escola localizado em Montes Claros, Minas Gerais. Os participantes da pesquisa foram enfermeiros que atuaram, no mínimo, um ano em maternidade, pediatria, unidade de terapia intensiva neonatal ou unidade de cuidado intermediário. **Resultados:** todos os participantes afirmaram ter percebido o aumento dos casos de sífilis congênita em seus ambientes de trabalho. Os fatores que colaboraram para o aumento do número de casos citados foram: fatores sociais, econômicos, comportamentais e não adesão ao tratamento. **Considerações finais:** percebeu-se a necessidade de implementações eficazes para o controle da sífilis gestacional e diminuição dos agravos em recém-nascidos. Ficou evidente a importância de ações de educação em saúde com o intuito de repassar informações corretas quanto às formas de prevenção, tratamentos e transmissão.
Palavras-chave: Enfermeiro. Sífilis congênita. Recém-nascido.

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Received: 02|23|2025. Approved: 08|04|2025.
Assessed by the double-blind review process.

How to cite this article: Rodrigues APS, Ferreira MEM, Antunes VIVF, Silva AG, Almeida LAV, Versiani CC, et al. Congenital syphilis from the nurse's perspective. Revista Bionorte. 2025 jul-dez;14(2):732-742. https://doi.org/10.47822/bn.v14i2.1241

Introduction

Syphilis is a curable and exclusive infectious disease of the human being, considered a public health problem of great impact, being caused by the bacterium *Treponema pallidum*. Symptoms are occasionally mild and late seeking treatment can cause serious complications. Can be defined as acquired or congenital. In pregnant women, there is a risk of vertical contamination from the mother to the newborn named congenital syphilis. Syphilis has a cure and treatment is provided by the Brazilian Unified Health System (UHS)[1].

The World Health Organization (WHO) in 2021 estimated that the rate of acquired syphilis per 100,000 inhabitants in Brazil was 78; the rate of detection of syphilis in pregnant women was 27 and the incidence rate of congenital syphilis per 1,000 live births was nine. In the same year, about 16,114 new cases were registered in Minas Gerais, with a detection rate 24.8% higher than that of the previous year, which is equivalent to 26%[2].

In Montes Claros, in the north of Minas Gerais, 1,205 new cases of syphilis were discovered between 2018 and 2022. In 2021, there was a significant increase of 303 cases, and the year 2018, the largest number of notifications, equivalent to 574. There was a drop in notifications of 307 cases in 2020. In 2022, there was an increase in notifications, 421 cases of acquired syphilis were registered, with 38 cases per 100,000 inhabitants[3].

In cases of congenital syphilis, during the same period, there were 774 new cases and in 2021 there were 219 new notifications for 1205 cases throughout the historical series. The notification of congenital syphilis corresponds to 64% of cases of syphilis in pregnant women. It is noted that more than half of the diagnosed pregnant women did not receive proper treatment or were not treated, which may contribute to the proportion of occurrence of congenital syphilis[3,4].

Acquired syphilis is transmitted through unprotected intercourse or blood transfusion, with greater likelihood of transmission of the infection in the primary and secondary stages. The primary stage manifests as a single wound called cancer, located in the positioning of bacteria that may be in the penis, vulva, vagina, cervix, anus, mouth and other places. This lesion is rich in *Treponema pallidum*, with an average duration of two to six weeks. Secondary syphilis manifests symptoms from six weeks to six months of infection, with an average duration of four to twelve weeks and may present cases of macules throughout the body, as well as hyperthermia, torpor, headache and lymph nodes spread throughout the body[5].

Congenital syphilis is the infection that is transmitted to the child during pregnancy or in childbirth, called vertical transmission, therefore, the purpose of performing the test for the detection

of syphilis during the pre, with greater likelihood of infection transmission in the primary and secondary stages[2,5].

Syphilis is a curable infection and it is of paramount importance to be tested, treated correctly and in a timely manner. The rapid test for syphilis is available SUS, in a practical and easy-to-perform way, with reading of the result in a maximum of 30 minutes, without the need for laboratory structure. In case of a positive result, the treatment of the pregnant woman should be started. The therapy of choice is penicillin benzathine, which can be applied in the primary health care unit closest to your residence[5,6].

To prevent transmission to the fetus, it is recommended that the pregnant woman perform the syphilis test at least in three stages of her pregnancy: in the first and third trimester, and at the time of delivery or in case of abortion. If not treated properly, gestational syphilis can still result in spontaneous abortion, premature birth, malformation of the fetus, deafness, amaurosis, intellectual disability and neonatal death. This shows the importance of pre-natal follow-up consultation[4,5,7].

Studies highlight that, despite pre-natal consultations, the late diagnosis of gestational syphilis remains a significant challenge in Brazil, compromising the effectiveness of treatment and increasing the risk of vertical transmission. Factors such as detection of infection only at the time of delivery or curettage and inadequate treatment of pregnant women contribute to the persistence of congenital syphilis in the country[8].

Moreover, other factors interfere with the growth of this disease as maternal characteristics that relate to such situation: unfavorable economic and social conditions, behavioral factors and poor access to health care, being highlighted factors such as race and cultural conditions, some of the main aggravating factors[9].

It is essential that health professionals have interest and knowledge about performing prenatal care with quality and efficiency, because it is one of the main tools in combating syphilis and other diseases affecting mothers and newborns. During prenatal care, the period in which the professional maintains direct and prolonged contact with the pregnant woman, it is up to him to clarify about the disease, its prevention and treatment. In addition, it is essential to ensure a humanized and qualified care both prenatal and puerperium. Preventive actions, as well as diagnosis and appropriate treatment of complications that may arise during these periods, are equally relevant[9,10].

This research was carried out in order to highlight the importance of nurses in the promotion, prevention, treatment and rehabilitation of congenital syphilis. The progression of cases, despite free treatment being made available by SUS, access to early diagnosis, and information provided by health professionals in prenatal consultations and other health education opportunities.

Therefore, the objective was to understand nurses' perception of congenital syphilis in a hospital context.

Materials and Methods

It is a cross-sectional, qualitative and descriptive research, carried out in a school hospital, located in Montes Claros, Minas Gerais, which contains 172 beds, being 30 beds of joint accommodation and kangaroo ward, eight beds of Intensive Care Unit (ICU) neonatal and 21 pediatric beds. The participants of the research were nurses who worked in the hospital in the care of newborns, at least one year ago in the maternity, pediatrics, Neonatal Intensive Care Unit (NICU) or Intermediate Care Unit (ICU). Exclusion criteria were nurses who were absent for vacation, health leave or other reasons during the research and data collection process.

The data collection took place in September 2023, using a chat application (WhatsApp®). An electronic form with the Informed Consent Form (ICF online) was initially sent to nurses. Those who, after reading, agreed to participate in the survey were directed to a questionnaire to identify the profile of participants. The interview questions regarding nurses' perception about the increase in cases of congenital syphilis, factors that contribute to this increase, as well as about the challenges in assisting cases of congenital syphilis were forwarded on the form and could be answered in full or by voice recording and forwarded via conversation application.

The responses received in the voice recording format were transcribed in full and, with the textual answers, were analyzed by the content analysis technique proposed by Bardin11, guided by the research object. The testimonies were organized from reading and rereading of their content when it was sought to apprehend the meanings of the lines and identification of themes or units of meaning of interest. Subsequently, the theme was aggregated by similarities, classified or reclassified and served as a basis for inference also supported in theoria[12], building two empirical categories. Participants were coded by numerical sequence preceded by the acronym I (interviewee).

Ethical care

The research was approved by the Research Ethics Committee (CEP) under opinion number 6.264.981.

Results

The participants were 11 nurses, two men and nine women, aged between 29 and 47 years. The time of academic training varied between nine and 28 years and the time of action in the maternal area varied between three and 21 years.

Understanding Congenital Syphilis from a Healthcare Perspective: Increase in Cases and Contributing Factors

In this thematic category, nurses perceive that initially there is an increase in cases of congenital syphilis in the hospital environment which, many times, was linked to non-identification from the hospitalization of the parturient woman in pre-delivery, as can be observed in the following talks:

> *Yes, on some occasions, the number of hospitalized patients is around 3 per shift (I4).*
> *It has increased enormously in recent years... we've reached 60% occupancy in the maternity ward with newborns being treated for congenital syphilis (I10).*
> *Yes, I've noticed an increase in congenital syphilis cases. I work in neonatal intensive care. I can't say statistically, but it's a perception. In recent months, I remember caring for children with congenital syphilis. I remember that for several months, we had different children in intensive care, something I didn't see very often. (I11)*
> *But two aspects particularly caught my attention regarding the increased number of cases. In recent months, I remember at least three cases in which syphilis was suspected based on pre-delivery history. These were pregnant women who either had or did not have VDRL. (I11)*

This increase in cases in the hospital environment, throughout the interviews, when revealed by the participants, allowed the understanding that there are situations that contribute to the increase of this occurrence, such as: socioeconomic and behavioral factors, evidenced by the following speeches:

> *Socioeconomic and cultural factors. (I8)*
> *Unprotected sexual intercourse, inadequate or incomplete treatment of pregnant women with syphilis. Reinfection of pregnant women after treatment due to their partner's failure to undergo treatment. (I2)*
> *Increased promiscuity associated with failure to use condoms during all sexual relations. (I3)*
> *Partner infidelity. (I8)*
> *[...] lack of adherence to treatment by parents, especially the man, which ends up reinfecting the mother. (I10)*
> *Decreased age at which young people initiate sexual activity, multiple partners. (I7)*

Assistance to this population has contributed significantly to the appearance of this disease in the view of participants, who highlighted the fragility in health services in the early diagnosis and follow-up of these pregnant women in the appropriate follow-up of cases during natal, as follows:

> *Lack of early detection and treatment of congenital syphilis. (I1)*
> *Lack of prenatal care or insufficient prenatal care (few appointments, no testing). (I2)*
> *Inadequate prenatal care, starting late and having fewer than six appointments. Failure to perform VDRL testing in the first and third trimesters. Lack of testing available through the Unified Health System (UHS) for pregnant women during prenatal care, making it difficult to start treatment. (I5)*
> *I believe that inadequate management of the pregnant woman and her partner in primary care; access to prenatal care; or the pregnant woman's connection with the health unit for prenatal care or access to health services. (I9)*
> *I consider the factors that cause congenital syphilis to include prenatal care and care for these pregnant women. Given the practical situation I've experienced in recent months, these pregnant women arrive without treatment or diagnosis, which somehow increases the possibility of transmission to the newborn. This is a factor that increases the occurrence of congenital syphilis. (I11)*

Health literacy has been an important tool of care. Considered a lightweight assistive technology, it should be widely used by health professionals. However, from the interviews, it is noticed that the lack of guidance and misinformation of women has been an aggravating factor for the increase in congenital syphilis:

> *Lack of knowledge about the disease (transmission). (I4)*
> *Guidance for pregnant women undergoing treatment for syphilis-positive results, especially adolescents and those with low levels of education. (I5) [...]*
> *Health education, raising awareness among pregnant women about prenatal care as a way to prevent/treat possible causes of complications. (I2)*
> *Lack of information for the population, especially for women of childbearing age, about the risk and consequences of syphilis and congenital syphilis; lack of ongoing education in primary health care (PHC) on the diagnosis and treatment of gestational syphilis; lack of national campaigns to publicize syphilis statistics, ease of diagnosis, and treatment; (I6)*
> *A sufficiently robust health education strategy to raise awareness among this population [...] (I1)*

Understanding Congenital Syphilis as a challenge for nursing care in women's and children's health care

Congenital syphilis has been a major public health challenge. Throughout the interviews, it is noticed that nurses face challenges in their care practice, which initially pervades first the aspects related to the woman’s own position before the disease as expressed in the fragments below:

> *The patient's lack of understanding and understanding of the consequences of transmission to the newborn. Difficulty understanding that treatment sometimes requires prolonged hospitalization and antibiotics. (I4)*
> *In the hospital, the greatest difficulty is related to […] the mother's acceptance of the diagnosis (when it was unknown) or treatment failure in PHC. Another challenge is the mother's awareness of the need for follow-up care for the newborn and maintaining it. (I6)*
> *Ensuring the affected patient receives treatment, completes the proposed treatment, and subsequently changes her lifestyle habits. (I7)*
> *The difficulty mothers have in understanding the need for proper treatment and follow-up care for the newborn to prevent sequelae resulting from syphilis. (I10)*

As an aggravating factor, it was revealed by the interviewees the very fragility of health services in relation to the training of health professionals in skills for adequate and safe care, mainly related to the venous access of the child, manipulation of drugs used for the treatment of syphilis and knowledge about complications for the newborn.

> *PICC insertion skills, a lot of patience and skill in handling medications for syphilis treatment." (I3)*
> *Continuous training for all healthcare professionals. (I5)*
> *Another difficulty concerns intravenous access for antibiotics. (I6)*
> *Adequate training for primary care professionals is needed to educate pregnant women and their partners about the risks, prevention methods, and appropriate treatment; early identification through rapid testing. (I8)*
> *The treatment itself, with intravenous access, already poses some practical difficulties in care, and I also consider it a major challenge. Another challenge that I find quite noticeable is the team's knowledge of the consequences and complications that can arise from the disease. Therefore, sometimes the team fails to recognize signs of complications in a timely manner so that treatment can be introduced earlier. This is also a challenge: the team's lack of knowledge, and with isolation practices to prevent transmission within the hospital area, and considering primary and secondary care, I think the nursing team's lack of knowledge about the complications of congenital syphilis, such as deafness and blindness, is a challenge. (I11)*

The participants revealed that there are also challenges related to the structure and organization of the health institution in the face of hospitalization and care protocols recommended in the care of congenital syphilis, according to reports:

> *The lack of rapid testing in maternity wards. (I5)*
> *The reduced turnover of rooms-in beds, which results in a large number of postpartum women in the obstetrics ward corridor. (I10)*
> *Specialized care will be required at a health service location with therapeutic resources, and this is already a challenge. Access to this patient and treatment is already a challenge. Sometimes, nurses have to manage the care of this child in hospital care without adequate access to intensive care. Dealing with antibiotic therapy in a room-in unit, with all the issues that can involve syphilis complications, is already a challenge for the nursing team. (I11)*

Finally, the stigma of the disease itself can be a major challenge for this care. Because the nursing team must be prepared for the formation of the bond between the binomial mother and child and avoid unnecessary judgments in this situation.

> *The issue of stigma surrounding it being a sexually transmitted disease, and we're caring for a child who will be hospitalized, already poses a challenge in bonding between this child and their mother and family, and the nursing team needs to promote strategies to strengthen this bond. So, when we have a child with congenital syphilis, there's a stigma attached to this disease, and the team, apparently, doesn't even address this situation. I find it challenging to hear judgments from the team and the mother for having this disease. (I11)*

Discussion

The results found in this study show that the professionals interviewed perceive an increase in cases of congenital syphilis and a late diagnosis of the disease. Social, behavioral factors, frailty in health services and lack of orientation of the population were cited as causes of the increase in cases.

Studies show a high proportion of pregnant women with syphilis treated inadequately, both related to late diagnosis and incorrect drug or inadequate doses or even treatment not performed[8,13]. Research showed that women with vertical transmission of the infection started prenatal care later, had a lower number of appropriate consultations, performed fewer serological tests for syphilis and presented less record of reactive serology in the prenatal card. Regarding the treatment of sexual partnerships, most were not treated (67.2%) and 23.7% had an unknown disease notification[13]. In the present research, the nurses pointed out as a challenge the not adequate treatment of the partners, providing reinfection of the pregnant woman. It is essential to ensure a quality prenatal care for the early identification and appropriate treatment of syphilis during pregnancy, corroborating the importance of continuing education and protocols in supporting decision-making.

Another difficulty found for the prevention of congenital syphilis pointed out in the study is the low socioeconomic level of pregnant women, as in other studies. Women who had a congenital syphilis outcome had lower prenatal care, had more late start of care and registered less adequacy in the number of consults[16]. Low education can hinder access to adequate information about diseases, negatively influence the acceptance of treatment and be associated with less healthy behaviors and lifestyles[17].

The lack of guidance and misinformation among women has been a hindrance to the increase in congenital syphilis pointed out in this research. It is important to promote sexual education for women, as public awareness of the risks of congenital syphilis and the importance of prenatal care can reduce incidence[7]. Continuous and effective communication between the health team and the

pregnant woman is essential during prenatal follow-up, as it promotes greater safety and confidence in the professionals, facilitating adherence and their adequate conduction18. The study indicated that the joint participation of doctors and nurses in prenatal consultations is associated with a better adequacy of the guidelines provided to pregnant women, reinforcing a collaborative and communicative approach in this care[17].

The research pointed out that, among the challenges faced in the treatment of congenital syphilis, it was highlighted the resistance of mothers to its long duration and the invasive and painful methods employed. In addition, the diagnosis causes feelings of anguish, despair, frustration and guilt in the mothers, which makes it difficult to care for the newborn[14].

Furthermore, the nurses pointed out as challenges in healthcare practice, the fragility of health services in relation to the training of health professionals in skills for adequate and safe care, mainly related to the venous access of the child and manipulation of drugs used for the treatment of syphilis. In another study, the nurses cited as challenges encountered in care the process of puncture in RNs that is difficult and often needs to be repeated; and medication that needs to be diluted in the appropriate proportion and applied at the correct time and for a long time[14].

The study presented limitations regarding its data and sample collection. Some of the nurses who met the inclusion criteria and who initially agreed to participate in the survey did not give their responses, failing to answer the questions addressed to them. However, this limitation was mitigated by the valuable contributions issued by those who participated, allowing a broad understanding about the topic.

The research presented benefits to professionals because they reflect on the difficulties faced in the hospital environment in relation to congenital syphilis, allowing them to act more emphatically in front of these obstacles.

Final considerations

It was noted that the control of congenital syphilis is still far from being achieved, since, over the years, an increase in the number of cases has been noticed. The study pointed out that this occurs mainly due to inadequate management of prenatal care leading to loss of opportunity for diagnosis and correct treatment of syphilis, the lack of implementation of the correct treatment of the pregnant woman and the partner and the absence of clarification on the severity of the disease.

A study pointed out difficulties of nurses in the treatment of children with congenital syphilis consistent with the literature, such as the maintenance of venous access and the resistance of the parents regarding the duration and suffering imposed on the children during the treatment. It was

highlighted the relevance of educational actions in health to disseminate accurate information on prevention, treatment and forms of transmission of the disease, as well as the need to prepare the team for the proper conduct of cases.

Author contributions

Conception and design of the research: Ana Paula Soares Rodrigues, Maria Eduarda de Moura Ferreira and Sélen Jaqueline Souza Ruas. **Data collection:** Ana Paula Soares Rodrigues and Maria Eduarda de Moura Ferreira. **Analysis, interpretation of the data and writing of the manuscript:** Ana Paula Soares Rodrigues, Maria Eduarda de Moura Ferreira, Verônica Isabel Veloso Fonseca Antunes, Clara de Cássia Versiani and Sélen Jaqueline Souza Ruas. **Critical review of the manuscript regarding the intellectual content and final presentation:** Verônica Isabel Veloso Fonseca Antunes, Aline Guimarães Silva, Lyllian Aparecida Vieira Almeida, Clara de Cássia Versiani and Sélen Jaqueline Souza Ruas. All authors have approved the final version of the manuscript and declared themselves to be responsible for all aspects of the work, including ensuring its accuracy and integrity

Conflict of interests

The authors declare no competing interests.

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