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Health care of sexual partners of adolescents with gestational syphilis and their children: an integrative review

Arnaldo Cezar Nogueira Laurentino (https://orcid.org/0000-0002-3195-120X) [1]
Beatriz Alves Ramos (https://orcid.org/0009-0002-1605-7418) [1]
Carollyne da Silva Lira (https://orcid.org/0009-0004-5584-2544) [1]
Isadora Fiaux Lessa (https://orcid.org/0009-0002-7039-3877) [1]
Stella Regina Taquette (https://orcid.org/0000-0001-7388-3025) [1]

Abstract *Gestational syphilis (GS) in adolescents is a challenge for Brazilian public health, with high incidence rates. Testing, diagnosis and treatment of sexual partners is essential to interrupt the chain of transmission, but since 2017 it is no longer a criterion for the proper treatment of pregnant women. We sought to analyze and synthesize the knowledge produced about the health care of sexual partners of adolescents with GS in Brazil. We carried out a systematic review in the BVS, SciELO and PubMed databases, selecting articles that addressed GS and/or congenital syphilis (CS) in adolescents aged 15 to 19 years and that included information about sexual partners. Forty-one articles were comprehensively analyzed using the WebQDA software and classified into two categories: a) Approach to sexual partners during prenatal care, and b) The role of sexual partners in the transmission cycle of GS and CS. The studies show that the partner's approach is deficient, with a lack of data on the sociodemographic profile and information on testing and treatment. In the context of Primary Health Care, there are no studies that address factors inherent to the context of vulnerability of sexual partners in relation to coping with syphilis.*

Key words *Pregnancy in adolescence, Gestational syphilis, Congenital syphilis, Sexual partners, Contact tracing*

[1] Faculdade de Ciências Médicas, Universidade de Estado do Rio de Janeiro. Av. Prof. Manoel de Abreu 444, Maracanã. 20550-170 Rio de Janeiro RJ Brasil. laurentino.acn@gmail.com

Introduction

Syphilis is a systemic infectious disease with a chronic evolution caused by the gram-negative bacteria *Treponema pallidum*. This disease is predominantly sexually transmitted and is thus considered a sexually transmitted infection (STI); however, it also occurs vertically, during pregnancy and delivery, resulting in congenital syphilis (CS). Although it is an easily diagnosed disease and can be treated efficiently, at a low cost, and even for free by the Brazilian Unified Health System (SUS), the disease is still a challenge for public health, registering a high incidence throughout Brazil[1].

The syphilis cycle in pregnant women has a mechanism that is analogous to syphilis in the general population. However, although it does not represent a serious risk to the parturient woman, the vertical transmission of this disease to the child may lead to such outcomes as prematurity, low weight, congenital malformation, abortion, or even fetal or infant death[2,3]. The pregnant woman must be treated at the time of diagnosis, regardless of having documentation of previous treatment. According to a protocol established by the Ministry of Health (MH), the pregnant woman should undergo testing in the 1st and 3rd semesters and at the moment of birth, and if the result is positive, the therapeutic resource for gestational syphilis (GS) consists of administering Benzylpenicillin benzathine[4].

The medical record of GS must be written on the pregnant woman's card by the health professional at the moment of diagnosis, and notified to the proper authorities through the National Disease Notification System (*Sistema de Informação de Agravos de Notificação* – SINAN), since these are "sentinel events", with compulsory notification, and can identify flaws in prenatal care[2,3]. To consider the pregnant woman as having been adequately treated, the medication scheme must have been completed and must have started in up to 30 days before delivery[2].

The testing and diagnosis of sexual partners in order to prevent grievances is important, and the evaluation and treatment of partners is crucial for the interruption of the chain of transmission of the syphilis infection[2,5]. However, in October 2017, the MH suspended the mandatory character of the treatment of sexual partners, which is no longer part of the criteria to consider the treatment of the pregnant woman as adequate[6].

According to the Epidemiological Bulletin of 2022, by the MH, in 2021, the cases of GS were approximately 27.1 cases per 100,000 inhabitants, totaling 74,095 notifications, with a 12.5% increase when compared to the rate from the previous year[7]. Of the total number notifications in Brazil, the Southeast region of the country, when compared to the other regions, stands out as that with the highest rates in terms of both GS detection (44.6%) and CS incidence (43.8%)[7]. Regarding age group, adolescent pregnant woman (10 to 19 years of age) corresponded to 20.2% of the cases of congenital syphilis in 2021[7], representing the second largest population group.

In the 2022 Syphilis Epidemiological Bulletin[7], no data was found regarding the socio-demographic profile or treatment data concerning sexual partners of pregnant women with syphilis, except for information on the treatment being "performed" or "not performed" or "ignored"; there are also no records on the follow-up of those GS cases or those which resulted in the grievance of CS in the children.

Therefore, considering that the involvement of sexual partners of adolescent pregnant women in the healthcare process during gestation has been a determining factor in the transmission cycle of syphilis, due to their behavior as case-sources of infection, as well as their lack of adherence to CS treatment, the present study aimed to analyze and synthesize the knowledge produced regarding the health care of sexual partners of pregnant adolescents with GS in empirical studies conducted in Brazil and available in literature.

Methodology

An integrative review of articles was conducted, in two stages, according to that proposed by Taquette and Borges[8]. The search for texts for this review was conducted through data collection from the BVS, SciELO, and PubMed databanks, considering studies published between 2011 and 2021, using two search keys (Chart 1) in each base, in which the first used the descriptor "Gestational syphilis", and the second, "Congenital syphilis", applying the search operators "AND" and "OR", combined with the descriptors as follows: *Search key* AND adolescent pregnancy; OR prenatal care; OR sexual partners; OR masculinity; OR gender role; OR notification of grievances; OR search for communicant.

For the initial triage, the following filters were used: full text, Portuguese language, and published in the last ten years. With the first GS

Chart 1. Key words for bibliographic review search.

Search key 1		Search key 2	
Congenital syphilis	AND	Gestational syphilis	AND
Teenage pregnancy	OR	Teenage pregnancy	OR
Prenatal care	OR	Prenatal care	OR
Sexual partners	OR	Sexual partners	OR
Masculinity	OR	Masculinity	OR
Gender role	OR	Gender role	OR
Disease notification	OR	Disease notification	OR
Search for communicant	OR	Search for communicant	OR

Source: Authors.

search key and its combinations with the key words and the mentioned filters, 820 articles were found (97 in BVS, 23 in SciELO and 700 in PubMed). With the second CS search key and the possible combinations, 1,069 articles were found (302 in BVS, 67 in SciELO, and 700 in PubMed), reaching a total of 1,889 titles from the sum of the two search keys. For the review, studies were excluded if they did not have a summary in the database or were incomplete, and if they were duplicated in more than one database, they were counted only once. Also excluded were articles that, although published during the desired period, were based on data from one year before the review period; the remaining 237 articles were selected for this study.

The analysis of the selected articles considered as inclusion criteria studies which treated GS and/or CS in adolescents, aged 15 to 19 years; that included data regarding the treatment of the sexual partners of those teenagers; and that had Brazilian adolescents as their target group.

In the first stage, a fluctuating reading was conducted on titles, abstracts, and keywords, searching for pertinence to the theme. The second stage consisted of the exhaustive reading of the articles, with the identification of the information sought by this study. In that second stage, each article was read by two researchers, and in case of discrepancies between them, a third researcher took part in the selection. The information that was considered pertinent was transcribed into a form produced by the authors to aid in the qualitative analysis of the studies that were considered eligible.

After reading the 237 selected studies, 57 were considered to be eligible and met the inclusion criteria; after a detailed reading, 16 articles were excluded for not delving into the objectives of the present review. The flowchart of the text selection process is shown in Figure 1.

The 41 articles included in our study were analyzed with the support of the WebQDA[9] qualitative data analysis software (https://www.webqda.net/). A comprehensive analysis of the textual data was conducted, seeking to identify convergent themes and for posterior categorization. After this stage, the present study conducted a discussion with the pertinent literature and the interpretive synthesis[10]. Fourteen additional texts used in the introduction and discussion of data collection in this review were included in the references.

Although the term "sexual partnerships" is more adequate, since it covers the sexual diversity of the relationships between individuals and combats cis-heteronormativity, we did not employ the term because of the predominance of syphilis transmission in heterosexual relationships; moreover, there is an absence of data regarding homoaffective partnerships.

Results and discussion

From the 41 studies analyzed, four were from the Midwest region[11-14], five from the North region[15-19], 12 from the Northeast region[20-31], eighth from the Southeast region[32-39], 11 from the South region[40-50] and one was a systematic review[51] of national and international studies. Most of the studies are of a quantitative nature.

Upon analyzing the articles included in this review, we noticed that none had detailed or in-depth information regarding the sexual partners of the pregnant women or the father of the newborn diagnosed with syphilis. Twenty-three articles presented no information about sexual partners, such as sociodemographic characteristics, or had no data regarding the treatment or why the subjects were treated or not, in an adequate or inadequate manner, as well as no information regarding the strategy for the treatment, the notification of cases, and the role of primary care and prenatal follow-up during treatment[12,15-22,24-26,32,33,35,36,38,39,42,45,47,48,50].

The remaining 18 articles treated the issue of the sexual partners in a superficial and insufficient manner, bringing only information regarding adherence to treatment (treated, not treat-

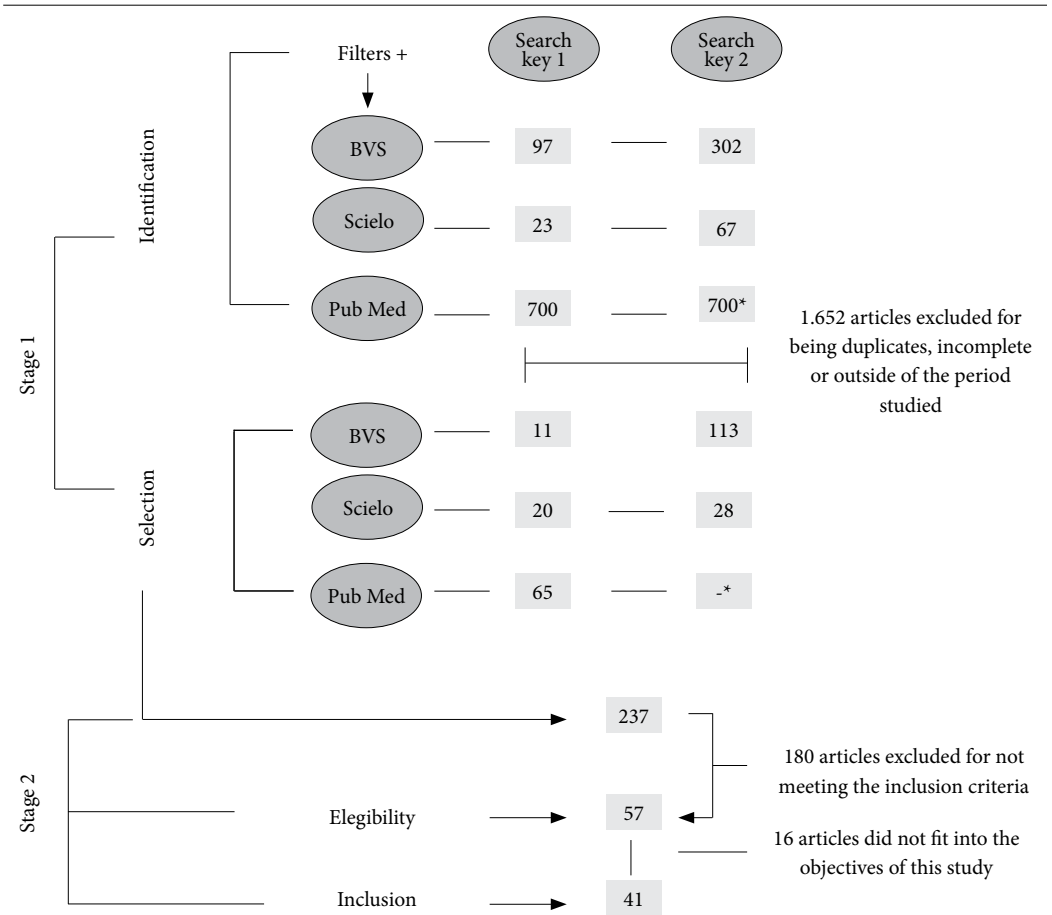

Figure 1. Flowchart of the research and article selection process.

Source: Authors.

ed, no information, had incomplete treatment), poorly exploring the role of those individuals in the transmission cycle of GS and CS. The data presented was limited to the controversy of inadequate treatments; however, to a great extent, it failed to deal with the reasons behind these claims, the sociodemographic characteristics of the partners, and the importance of primary care in this process[11,13,14,23,27-31,33,34,37,40,41,43,44,46,51].

After reading and analyzing the reviewed articles, they were classified in two categories: a) Approach regarding the sexual partners during prenatal care, referring to sexual counseling, treatment, and follow-up of partners and b) The role of the sexual partners in the transmission cycle of GS and CS, referring to the influence or to how the sexual partners are described in relation to the cycle of transmission and treatment of GS and CS. Category "a" has 34 articles and category "b", 15 articles, while 8 articles were present in both categories. The articles analyzed below are shown in Charts 2 and 3, distributed according to authors, year, type and place of study, studied population/sample and results/conclusions.

a) Approaching the partner during prenatal care

In this category, access to services and public healthcare policies is seen from the standpoint of the stages of approach, counseling, treatment, and follow-up, revealing the gaps and the risks often present in the approach to sexual partners when there is a diagnosis of GS or and/or CS in adolescent women. The Prenatal Care for Partners Guide for Health Professionals[5], developed by the MH for use by healthcare professionals, is a tool which is capable of overcoming the barri-

Chart 2. Articles included in category (a) "Approach to sexual partners during prenatal care".

Author/Year and place of the study	Objective of the study	Population and sample	Results/conclusions
Amorim et al. (2021) Ecological study; Minas Gerais	Analyze the tendencies of GS and CS notifications.	20,348 cases of GS and 11,173 of CS.	The incidence rates of GS and CS showed a growing tendency, which may be related to inadequate treatment for GS or a lack of it.
Silva et al. (2021); Cross-sectional study; Paraná	Analyze CS incidence and vertical transmission.	308 pregnant and 149 children with syphilis.	It was verified that women's access to prenatal care did not ensure the quality of the care provided.
Roehrs et al. (2021) Quantitative; Santa Catarina	Estimate GS prevalence and associated factors.	212 pregnant women.	The high rate of inadequate treatment indicates the need for new strategies for GS control.
Lobato et al. (2021) Quanti/qualitative; Amapá	Analyze the situation of inadequate treatment for CS.	61 cases of CS; 8 primary care nurses.	Fragility was noticed in the treatment of CS, with a high presence of inadequate treatment.
Rigo et al. (2021) Control case; Minas Gerais	Investigate information on pregnant women regarding syphilis and its association with the CS diagnostic.	70 pregnant women in the case group and 120 in the control group.	The pregnant women in the group had lower educational levels and had 24 times more chances of having information regarding CS and 5 times more chance of having received a prior syphilis treatment, and the pregnant women in the control group had 10 times more chances of having received information on STI during prenatal treatment.
Lucena et al. (2021) Cross-sectional study; Alagoas	Describe the CS scenario.	2,115 cases of CS and 408 cases of GS.	Most of the pregnant women were diagnosed at the time of delivery or curettage and had no treatment. Most of the children were diagnosed with recent CS.
Silva et al. (2021) Cross-sectional study; Maranhão	Analyze sociodemographic and reproductive data in the prenatal data of women with GS.	151 GS cases.	41% of the women interviewed, and 40.4% of the partners were considered adequately treated. The fight against GS demands action from different spheres and capacitation of the professionals.
Araújo et al. (2020) Exploratory descriptive study; Rio Grande do Norte	Identify adherence to the quick test for STIs during prenatal care and administration of penicillin.	18 towns, 94 BHU, and 100 FHS teams.	93% of the teams offered tests on a routine basis, 97.8% during prenatal care and 57% offered to sexual partners. Penicillin was available for 87.1% of the teams, but 49.5% did not use it.
Ozelame et al. (2020) Cross-sectional study; Mato Grosso do Sul	Analyze the occurrence of GS and CS in terms of vulnerabilities.	2,673 cases of CS and 9,526 of GS.	GS and CS had multifactorial causes and the struggle against the diseases must consider social vulnerability, individual vulnerability, and the programmatic vulnerability of the population.
Vescovi et al. (2020) Retrospective cohort; Santa Catarina	Estimate the incidence of CS and the temporal tendency of the notified cases.	2,898 CS cases.	There was an exponential increase in the number of cases of CS, revealing flaws in prenatal care, late diagnosis, and inadequate treatment for the pregnant women and their partners.
Nonato et al. (2020) Cross-sectional study; Acre	Analyze the epidemiological data about the population with syphilis.	5,239 syphilis cases.	Information on preventing infection should be intensified, especially aimed at adolescents, the elderly, and indigenous populations.

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ers of the social construction of gender by means of approaching and including the father and/or sexual partner of the pregnant women in the entire process of pregnancy, so long as the pregnant woman is willing.

It is an attribution of primary health care to encourage the father and/or partner to participate in the prenatal follow-up of the pregnant woman. The Prenatal Care Guide provides a list of five steps to conduct this process: (1) to have a welcoming attitude in the first contact; (2) to request quick tests and routine exams; (3) to vaccinate the father/partner according to the vaccine situation of each case; (4) to work with themes

Chart 2. Articles included in category (a) "Approach to sexual partners during prenatal care".

Author/Year and place of the study	Objective of the study	Population and sample	Results/conclusions
Heringer et al. (2020) Descriptive of temporal series; Rio de Janeiro	Describe the temporal and epidemiological distribution of CS.	754 CS cases.	Incidence of CS in young, black individuals, with low educational levels and without prenatal care. 57.6% of the pregnant women were diagnosed with GS during prenatal care. The treatment was inadequate for 87.7% of them, and only 12.2% of the partners were treated.
Silva et al. (2020) Cross-sectional study; Tocantins	Describe the epidemiological distribution of CS.	1,029 notified cases of CS.	There was an increase of 216.1% of CS, with higher rates in the center and north part of the state. Most of the pregnant women were between 15 and 24 years of age, had an Elementary education, and had inadequate prenatal care.
Costa et al. (2020) Ecological study; Pará	Analyze the temporal tendency of CS and its spatial distribution.	5,949 CS cases.	There was a tendency of continuous growth of CS and for its territorial expansion. The results point to inefficient prenatal follow-up.
Dias et al. (2019) Systematic review	Present the results for the struggle against CS in PHC.	20 articles.	Identification of four actions to reduce and fight CS, which have the potential to support the construction of PHA policies.
Maraschin et al. (2019) Cross-sectional study; Paraná	Know the profile of notified GS and CS cases.	114 cases of GS and 114 of CS	65.78% of the GS cases were diagnosed during prenatal care, 57.90% with inadequate treatment, and 75.43% of the sexual partners were not treated.
Conceição et al. (2019) Ecological study; Maranhão	Analyze the epidemiological profile and the spatial distribution of GS and CS.	149 GS cases.	73% increase in the period. The highest prevalence was among younger women, light-skinned black, with low educational levels, who were housewives during the study period. The handling of the investigation proved to be weak.
Favero et al. (2019) Cross-sectional study; Paraná	Establish a profile for the notified cases of CS and GS, their clinical and sociodemographic relationships.	120 cases of GS and 103 of CS.	Factors associated with CS suggest flaws in prenatal care, especially in terms of adequate treatment for the pregnant women and their partners.
Santos et al. (2019) Cross-sectional study; Piauí	Analyze the profile of GS case.	75 GS cases.	Prevalence of GS in women between 20 and 29 years of age, with incomplete Elementary education. Only 32% of the partners received treatment.
Silva et al. (2019) Cross-sectional study; Pernambuco	Describe the profile of CS cases.	57 CS cases.	There is poor effectiveness of prenatal care in preventing CS. Only 35.08% of the diagnoses of GS happened during prenatal care.
Jesus et al. (2019) Cross-sectional study; São Paulo	Characterize the profile of GS and CS.	32 cases of GS and 06 cases of CS.	There is a predominance of GS among young women with none or only some level of education. CS is almost six times above the target by the MH.
Maschio-Lima et al. (2019) Ecological study; São Paulo	Know the profile of CS and GS.	396 cases of GS and 290 cases of CS.	97% of the GS cases had adequate treatment and 52% of the partners were treated. In terms of CS, 82% of the pregnant women were inadequately treated and 82% of the partners had no treatment.

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aimed at the male public; and (5) to encourage the active participation of partners in pre-delivery, delivery, and post-partum stages and in child care.

The aforementioned Guide[5], when discussing the diagnosis and handling of eventual grievances regarding the pregnancy, reveals the importance of providing counseling for the sexual partner as a tool to prevent and handle those grievances. Suto et al.[52] mention the importance of well-administered counseling and treatment in order to break the cycle of STI transmission, since those interventions provide the individual with assessment and understanding of the risks. However, the reality of high rates of CS in Brazil is evidence of the flaws in primary health care,

Chart 2. Articles included in category (a) "Approach to sexual partners during prenatal care".

Author/Year and place of the study	Objective of the study	Population and sample	Results/conclusions
Bertusso et al. (2018) Cross-sectional study; Paraná	Estimate GS in a university hospital.	121 GS cases.	Treatment was inadequate for 68.7% of the pregnant women and 14.9% of the newborn were diagnosed with CS.
Cunha et al, (2018) Cross-sectional study; Santa Catarina	Know the prevalence of GS in a maternity hospital.	69 GS cases.	Most GS cases were among young, white, single, multigestation, with complete Elementary education or Incomplete High School education. Only 30.4% of the partners received treatment.
Menegazzo et al. (2018) Cross-sectional study; Santa Catarina	Determine the incidence of CS in the last 15 years.	26 CS cases.	The incidence of CS is high, with a 126% increase in the last 15 years, and high underreporting as well.
Cardoso et al. (2018) Cross-sectional study; Ceará	Analyze GS cases and their possible outcomes.	175 GS cases.	More than 85.0% of GS cases were inadequately treated and 62.9% of the partners did not get adequate treatment or no information was available. There was a predominant lack of CS exams.
Silva et al. (2017) Cross-sectional study; Mato Grosso	Analyze the CS profile.	153 CS cases.	Most of the GS cases were between 16 and 20 years of age, light-skinned black, 5th to 8th grade education incomplete, with inadequate prenatal care and treatment; 56.86% of the partners were not treated.
Oliveira et al. (2017) Cross-sectional study; Rio Grande do Sul	Describe the profile of CS cases.	752 CS cases.	Most of the GS cases were among young, with low education and low rate of prenatal care. More than 70% of the pregnant women had inadequate treatment. Only 16.1% of the partners were treated.
Cavalcante et al. (2017) Cross-sectional study; Tocantins	Describe the profile of GS and CS cases.	171 cases of GS and 204 of CS.	Predominance of light-skinned black pregnant women, with low educational levels, late diagnosis during prenatal care, age 20 to 34, complete High School, diagnosis during prenatal and untreated partners.
Barbosa et al. (2017) Cross-sectional study; Piauí	Determine the profile of GS cases.	388 cases of GS and 193 of CS.	Pregnant women between 20 and 39 years of age, incomplete Elementary education. 40.4% had a diagnosis of GS during prenatal care, and in 22.3% of the cases, the partners were treated.
Nonato et al. (2015) Cross-sectional study; Minas Gerais	Estimate incidence and factors associated with CS.	353 GS cases.	The incidence of CS suggests flaws in prenatal care and indicates a need for new strategies to reduce vertical transmission.
França et al. (2015) Cross-sectional study; Paraíba	Analyze factors associated with report of CS.	113 CS cases.	64.5% of the pregnant had inadequate treatment, and the partner was not treated in 85.7% of the cases.
Rezende et al. (2015) Cross-sectional study; Goiás	Analyze CS as an indicator of prenatal care.	3,382 cases of GS and 296 of CS.	The analysis indicates flaws in prenatal care and in actions of health surveillance, given the inadequate treatment for the pregnant women, to untreated partners and to underreporting as well.
Domingues et al. (2013) Cross-sectional study; Rio de Janeiro	Evaluate hurdles in care for GS.	102 professionals.	Access to the content in the protocols through training and technical manuals had a discrete effect on the improvement of care conditions.

Source: Authors based on data from BVS, SciELO, and PubMed.

including not promoting the mentioned steps regarding the partners in prenatal care, which results in the failure to break the vertical transmission cycle of syphilis.

It is understood that the failure in the approach and counseling of the sexual partners of pregnant women relates to challenges for both the care system and the individual. Domingues et al.[38] showed that the recommendations about themes considered to be culturally sensitive, such as the STIs, sexuality, and the use of condoms, can constitute a barrier for their very adoption,

Chart 3. Articles included in category (b) "The role of sexual partners in the transmission cycle of GS and CS".

Author, year, design and place of the study	Objective of the study	Population and sample	Results/conclusions
Oliveira et al. (2021) Cross-sectional study; Goiás	Analyze notifications of GS.	7,774 GS cases.	There was an increase in the number of notifications of latent syphilis in pregnant women, as well as in terms of treatment and completion of the report records.
Soares et al. (2021) Ecological study; Bahia	Describe completion and characteristics of the CS and GS reports.	15,050 cases of GS and 7,812 of CS.	There was an increase in the rates of incidence, failure when filling out the report documents, and the need to implement a routine to evaluate information quality.
Amorim et al. (2021) Ecological study; Minas Gerais	Analyze the tendency of the GS and CS reports.	20,348 cases of GS and 11,173 of CS.	The rates of incidence of GS and CS presented a decreasing tendency, which might be related to inadequate or no treatment of GS.
Silva et al. (2021); Cross-sectional study; Paraná	Analyze the incidence of CS and its vertical transmission.	308 pregnant women, 149 children with syphilis	It was observed that accessibility of women to prenatal care did not ensure the quality of the care provided.
Ozelame et al. (2020) Cross-sectional study; Mato Grosso do Sul	Analyze the occurrence of GS and CS in terms of vulnerability.	2,673 cases of CS and 9,526 of GS.	GS and CS had multifactorial causes, and the fight against them must take into consideration social and individual vulnerability and programmatic vulnerability of the population.
Bertusso et al. (2018) Cross-sectional study; Paraná	Estimate GS in a university hospital.	121 GS cases.	Treatment was inadequate for 68.7% of the pregnant women, and 14.9% of the newborns were diagnosed with CS.
Menegazzo et al. (2018) Cross-sectional study; Santa Catarina	Determine the incidence of CS in the last 15 years.	26 CS cases.	The incidence of CS is high, with 126% increase in the last 15 years and underreporting.
Cardoso et al. (2018) Cross-sectional study; Ceará	Analyze the GS cases and their possible outcomes.	175 GS cases.	More than 85.0% of GS cases were not treated adequately, and 62.9% of the partners were not treated, or the information was missing. There was a predominance of CS exams not having been conducted.
Trevisan et al. (2018) Cross-sectional study; Paraná	Identify the prevalence of GS and CS.	39 cases of GS and 8 of CS.	There is a need for commitment by the professionals in order to ensure the quality of the reports and the strategies for education, prevention, early detection, and treatment.
Lafetá et al. (2016) Cross-sectional study; Minas Gerais	Identify and describe CS and GS cases that were not reported.	93 cases of GS and 54 of CS.	33.3% of the pregnant did not receive treatment, and the total number were considered to have been inadequately treated; 98% of the partners were not treated.
Nonato et al. (2015) Cross-sectional study; Minas Gerais	Estimate incidence and factors associated with CS.	353 GS cases.	CS incidence suggests flaws in prenatal care and indicates a need for new strategies to reduce vertical transmission.
Rezende et al. (2015) Cross-sectional study; Goiás	Analyze CS as an indicator of prenatal care.	3,382 cases of GS and 296 of CS.	The analysis shows flaws in prenatal care and in health surveillance actions, given the inadequate treatment provided to the pregnant women, to untreated partners, and underreporting.
Costa et al. (2013) Cross-sectional study; Ceará	Evaluate the incidence of CS and describe the profile of the pregnant women whose newborn had CS.	2,930 CS cases.	Inadequate treatment of the pregnant women and the lack of treatment for partners are a reality in CE. The increase in CS in the last 10 years reinforces the need for actions aimed at controlling the disease.

Source: Authors, based on data from BVS, SciELO, and PubMed.

since they can be deemed to be embarrassing for both health professionals and users of the healthcare system.

In this sense, the Health Professionals Prenatal Guide for the Partner[5] indicates the essential condition of the preparation of the team/service in terms of understanding the subjectivity of the users so that a better approach can be developed in terms of counseling about risks and encouraging changes in values and practices. Having a well-prepared team, therefore, allows for guidance to be provided to the fathers/partners of the pregnant women who have syphilis, involving them in the care of the mother-baby binominal, thus preventing eventual grievances.

Regarding the data on GS treatment, the Guide for Quick Reference in Prenatal Care: Routines for pregnant women at a normal level of risk, 2019[53], produced by the Municipal Health Secretary of the city of Rio de Janeiro, highlights that it is the team's duty to fill in the records and prenatal care cards of the pregnant women, information related to their treatment, including the dates when medication was administered, and the post-treatment serological follow-up, stemming from the premise that these records are important in order to evaluate the maternity hospital, the recommended treatment, and the reporting of CS.

The study Roehrs et al.[41] demonstrated that, among the cases of pregnant women who were considered to be adequately treated, there was no information in the records regarding the therapy used for the partners in 17.4% of the cases, and similarly, among the cases of pregnant women considered to be inadequately treated, the absence of information in the records regarding partners occurred in 60.2% of the cases. Likewise, the study by Nonato et al.[37] revealed the flaws in the logging of data regarding the treatment of the mother-baby binominal, mentioning that there was no information in the digital records regarding the administration of any dosage of penicillin for 28% of the pregnant women and 81.1% of the partners.

This kind of flaw is also present in the process of reporting CS cases, as revealed by Ozelame et al.[11], given that 25.7% of the CS notifications had no information on partners recorded on the forms. We can therefore conclude that, although the need to record the syphilis treatment provided to the pregnant woman is reinforced in the healthcare protocols, the same kind of emphasis is not given to registering information regarding the treatment of the sexual partners, which is associated specifically with the failure of the healthcare system to identify, treat, and notify those partners with the aim of reducing the vertical transmission of syphilis and, consequently, the incidence of CS.

According to the Clinical Protocol and Therapeutic Guidelines for the prevention of the vertical transmission of HIV, Syphilis, and Viral Hepatitis[4], the treatment of the partners is not considered an epidemiological item in the characterization of CS cases; however, it is something extremely important. Hence, whenever the treatment of those is not provided or happens in an inadequate manner, chances of reinfection increase and the chain of transmission of syphilis is not interrupted. Moreover, as mentioned by Lucena et al.[20], when unprotected sex happens between the pregnant woman and the infected partners, the chances of infection by CS increase by up to 5-fold.

Roehrs et al.[41] consider that the tracking of partners and their treatment are important methods for controlling syphilis in the Brazilian population. However, the authors estimate that only 12% of the partners receive adequate treatment in Brazil. This data indicates fragilities in the healthcare system. Among the difficulties to conduct the effective treatment of partners is the poor recording of treatments given to partners on the pregnant women's medical cards and in the reporting of CS as well. Once pregnancy is identified, it is a duty of the Primary Healthcare system to offer the pregnant women and their partners quick tests for syphilis and HIV, as well as to provide humanized welcoming and counseling.

Prenatal care is crucially important, since it is the time of greatest proximity between the pregnant woman, her partner, and the healthcare team[19]. Primary Care, therefore, plays an important role in fighting the cycle of the transmission of syphilis. It is the entryway to the healthcare system and provides identification, welcoming, reporting, and proper treatment to the pregnant and their partners; moreover, it also plays an essential role in fighting the transmission of syphilis[12].

b) The role of the partners in the GS and CS transmission cycles

In this category, we discuss the contribution of articles regarding the role of sexual partners in the maintenance of high rates of GS and CS in Brazil. There is a lack of sociodemographic data

on these individuals, and the issue is poorly explored by the articles. Most of the article merely inform if the partner was treated or not, through data in SINAN's compulsory reporting record. The numbers are alarming, since they demonstrate that a low percentage of partners are being treated, thus showing that the healthcare system fails to reach and connect with those individuals.

All of the studies recognize the need for syphilis testing, diagnosis, and opportune treatment, not only for the pregnant women, but also for their sexual partners, to be provided during prenatal care. The studies also point to the fact that it is important to have strategies to improve the adherence of partners to health care, thereby encouraging health promotion and disease prevention, and a greater connection to PHC units[11,14,26,30,37,54]. However, the way in which the difficulties in this area are discussed in the articles is extremely superficial and disregards the deeper debate involving social iniquity and markers of generation, race, social class, gender, and sexuality[55].

Some of the literature that mentions sexual partners in greater detail than simply quantitative aspects, lists some of the reasons for not treating partners; information was also obtained from the SINAN records. The main reasons are: low adherence to healthcare services due to labor issues; the health service does not recommend treatment; the lack of a reference unit; the lack of knowledge regarding the disease; no later contact with the pregnant women, and the lack of reagent serology. Other barriers are also mentioned, such as the lack of the capacity of the health professionals to identify and/or conduct an individual therapeutic plan, the difficulties in creating connections, and care focused on the binomial pregnant woman-baby[14,30,31,50].

Cesaro et al.[55], when analyzing male subjectivity in the context of healthcare practices, criticized the current centrality of public policies concerning the pregnant woman-baby duo, and called attention for the invisibilization of masculinities, given that they are subjects who have rights. The authors, therefore, argue that the supposed difficulty of men to take care of their own health goes beyond the difficulties in connecting users to health services and actions. Beyond that fact, there is also the presence of social inequalities, forged by social markers of generation, race, social class, gender, and sexuality, which overlap and produce experiences that are substantially different.

Final considerations

Studies are an evidence of the lack of significant information on the sexual partners of adolescents with GS and their children with CS, no sociodemographic data nor data regarding the diagnostic approach to syphilis. Likewise, no information is presented in the 2022 Epidemiological Syphilis Bulletin[7]. Even though the MH and many studies about GS and CS reiterate the importance of treatment for sexual partners, in the reviewed articles, we did not identify any proposal of public policies aimed at dealing with factors that influence partners not to adhere to the treatment, not to go to the healthcare unit when called, or not to get adequate treatment.

In the realm of PHC, no studies were found dealing with factors inherent to the concept of the individual's vulnerability in terms of syphilis treatment, corroborating with the need for more scientific production about the social, gender, and race relationships that determine this reality.

Looking at the health-disease process from a broader point of view, and considering the oppressive systems that structure our society, intersectionality may be a useful tool for this analysis, which needs to go beyond the shallow, common sense acceptance that men have more difficulty in taking care of their own health, and in general, only access healthcare services when faced with more serious conditions.

It is important to highlight that the present review is limited to Brazilian studies on pregnant adolescents. However, based on that data, it is possible to suggest strategies capable of facing the challenges of diagnosing and treating the sexual partners of adolescent pregnant women with GS and their children with CS, and providing partners a more active role in the interruption of the cycle of transmission and reinfection by syphilis. Perhaps the absence of care and treatment of sexual partners is the key element necessary to reduce the high incidence of GS and CS in Brazil.

Collaborations

All of the authors participated effectively in the conception of the study, and the production and final review of the manuscript. The authors CAN Laurentino, BA Ramos, CS Lira and IF Lessa participated in data collection and analysis.

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