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FACTORS ASSOCIATED WITH ADHERENCE TO CLINICAL AND LABORATORY FOLLOW-UP OF PREGNANT WOMEN WITH SYPHILIS

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ABSTRACT

Objective: to analyze the factors associated with adherence to clinical and laboratory follow-up of pregnant women with syphilis. **Method:** analytical study carried out in Basic Health Units with 73 pregnant women with syphilis from May 2019 to May 2020 in a capital of the Northeast of Brazil. Data collection occurred in three stages: (1) survey of cases of pregnant women with syphilis, (2) application of a form during prenatal care, prepared by the researchers, to collect sociodemographic, behavioral and clinical variables, and (3) after delivery, data collection regarding the final outcome of pregnancy. The research used descriptive analysis and logistic regression, all tests with $p< 0.05$. **Results:** adherence to clinical and laboratory follow-up occurred in 25 (34.3%) pregnant women; and follow the association with the variables: having an affective partner (*p=0.012*), syphilis in the first quarter of pregnancy (*p=0.041*), beginning of treatment at the time of diagnosis (*p=0.023*) and prenatal care performed by two professionals, physician and nurse(*p*=0.039). **Conclusion:** adherence was considered low. Multivariate analysis indicates that having a partner and immediate treatment may indicate a reduction in the loss tofollow-up. Primary care plays a fundamental role in thefollow-up of pregnant women with syphilis; identifying barriers related to adherence to follow-up can contribute to the development of more targeted and specific strategies.

Keywords: Loss tofollow-up; Syphilis; Pregnant women; Vertical transmission of infectious diseases; Risk factors.

INTRODUCTION

Syphilis, Sexually Transmitted Infection (STI), has a high prevalence in the world. Globally, in 2020, the rate of new syphilis cases was 7.1 million, with 473 cases of Congenital Syphilis (CS) per 100,000 live births in 2016[1]. It is an infection that is easy to diagnose and treat and difficult to control [2].

In Brazil, in 2021, a rate of 27.1 cases of syphilis was detected in pregnant women per 1000 live births, 12.5% higher than the rate observed in the previous year. In the country, in 2021, 74,095 cases of syphilis were reported in pregnant women, of which 33,065 (44.6%) were residents in the Southeast region, 16,728 (22.6%) in the Northeast, 10,571 (14.3%) in the South, 8,011 (10.8%) in the North, and 5,720 (7.7%) in the Midwest. This shows that the occurrence of gestational syphilis in the country presents regional differences, with higher percentages in the Southeast and South regions [3].

Given this scenario, the challenges for coping with syphilis are a reality, considering the low level of education of the population, deficits in the team's work dynamics that have repercussions on the inopportune diagnosis, inadequate and/or late treatment, non-monitoring of cases and, mainly, absence of preventive educational actions. These factors significantly hinder adherence to clinical follow-up, which may contribute to high rates of congenital syphilis [4-5].

In the national scenario, studies have pointed out several factors associated with this high prevalence and difficulty in adhering to treatment in several populations[6]. In the region of Mato Grosso do Sul,

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Brazil, the 4.4% seroprevalence of syphilis in pregnant women and the low quality of prenatal care services contribute to the high prevalence of syphilis[7]. Another study, carried out in Rio Grande do Sul, Brazil, highlighted that black women, with low family income and education and who had few prenatal consultations had a higher prevalence rate of not having serological tests for syphilis during prenatal care[2].

Among the actions for the control of syphilis, there is the expansion of the coverage of the rapid test, which, when offered at the first prenatal consultation in primary care, proved to be effective for the identification of the infection and the screening of syphilis cases. However, in practice, more effective strategies are still needed to improve adherence, as well as the availability of materials to perform the test[8].

According to the Brazilian Ministry of Health, monthly follow-up of all pregnant women with syphilis, detection of possible infections as early as possible and treatment of the sexual partner should also be carried out. With an increase in the titers of the non-treponemal tests in two dilutions, in relation to the previous test, there is a possibility of therapeutic failure and indication for re-evaluation of the treatment[9].

Given the magnitude of the problem and the possibilities of vertical transmission, it is important to analyze the factors related to the loss of clinical and laboratory follow-up among pregnant women with syphilis in primary care, considering to increase the visibility of the problem, to provide reflections on the best definition of strategies for screening and treatment of gestational syphilis, with a view to reducing and/or eliminating vertical transmission and, consequently, to reducing cases of congenital syphilis, as well as, through these findings, it may be possible to fill some of the existing gaps regarding the main factors for the loss of clinical and laboratory follow-up among pregnant women with syphilis in primary care at local and national levels.

Thus, the study aimed to analyze the factors associated with adherence to clinical and laboratory follow-up of pregnant women with syphilis.

METHOD

Analytical and prospective cross-sectional study. The study was carried out in the Basic Health Units (BHU), in the city of Teresina, Piauí, Northeast region of Brazil. According to data from the Municipal Health Foundation, in 2019, the city had 90 health units, organized into four regional health zones in the north, east, south and southeast, operating from Monday to Friday, with primary health care.

The study population consisted of pregnant women diagnosed with syphilis. From May 2019 to May 2020, the number of pregnant women in the municipality was 5312. Of this total, 113 had a diagnosis of gestational syphilis, according to information from the Municipal Surveillance Secretariat. Thus, the sampling was by convenience, and throughout the study, it was possible to contact 73 participants on the day they attended the BHUs in the north and east areas for the prenatal consultation.

Inclusion criteria were having a diagnosis of syphilis at any gestational age, with active registration in the Basic Health Unit and age equal to or greater than 18 years. Those who did not attend the prenatal consultation after three contact attempts during prenatal care, known to be diagnosed with a mental disorder and diagnosed with syphilis after the survey of the first stage of the research (survey of BHUs that reported cases of pregnant women with syphilis via the information system) were not included. Patients who participated only in the first and second stages of the study during prenatal care were also excluded, as they were not located until 42 days after delivery for collection of the third stage.

The data collection form was previously validated, in terms of form and content, by five judges with mastery of the subject. The instrument was divided into four sections in order to contemplate the variables of interest of the second and third stages of data collection. These are: (I) sociodemographic data (age, education, marital status, income and race); (II) behavioral (age at first sexual intercourse, use and type of condom, type of partner and substance use); (III) clinical (previous health care, testing for syphilis, rapid test in previous pregnancy, number of pregnancies, deliveries and abortions, probable date of delivery, gestational age, prenatal care, presence of STIs, guidance on the risk of vertical transmission, sexual intercourse with condom use in current pregnancy, tests for the detection of HIV/AIDS and hepatitis B, time of infection, guidelines on treatment, presence of signs and symptoms, result of tests, treatment of the

pregnant woman and partner); and (IV) pregnancy outcome (vertical transmission; collection in the third stage of the research). The variables of interest were constructed from an Integrative Review [10].

Adequate clinical and laboratory follow-up of pregnant women with syphilis was considered: initiation of treatment after diagnosis, monthly evaluation for non-treponemal tests and quantitative VDRL after 30 days of treatment initiation; treatment of the sexual partner(s) concomitantly with that of the pregnant woman; treatment with the drug of choice, benzathine penicillin, according to the stage of the disease and the recommended interval; and initiation of treatment less than 30 days before delivery[11].

On the other hand, it was adopted as loss to clinical-laboratory follow-up the presence of at least one of the following situations: absence of quantitative VDRL after 30 days of treatment initiation; inadequacy or non-treatment of the sexual partner(s) concomitantly with the treatment of the pregnant woman; no documentation of the fall in the titer of the non-treponemal test [9].

Data collection took place in three distinct stages, using primary and secondary data. In the first, the survey and selection of Basic Health Units with reported cases of gestational syphilis was carried out, through access to the Notifiable Diseases Information System (Sinan). Thus, a list of eligible pregnant women was created and, upon returning to the Health Unit, they were invited and answered a form.

Subsequently, in the second stage, a form prepared by the researchers was applied with the pregnant women on the day of the prenatal consultation to collect data related to sections I, II and III of the instrument. It is noteworthy that data collection was carried out from Monday to Friday, in the BHU where the pregnant women underwent prenatal care. The invitation to participate in the research was made before or after the consultation, as it was best for the participant. A nurse (master's student) and a scientific initiation student (trained by the responsible researcher) participated in the data collection.

In the third stage, through contact with the participant, information was collected regarding the result of the pregnancy (section IV of the instrument), whether it had vertical transmission or not. In order not to lose sample, this stage was optimized to be collected in the puerperal period in the BHU and/or maternity, up to 42 days postpartum. The pregnant woman's booklet and/or medical record were consulted to obtain additional information, or when the pregnant woman did not know the information accurately.

All variables of the data collection instrument were organized and coded in a dictionary called a codebook. The data were organized in Excel and exported to the Statistical Package for the Social Sciences (SPSS), version 25, for treatment and generation of results. For data analysis, Fisher's exact test and Pearson's chi-square test were used to test the association between loss to follow-up and independent categorical variables (sociodemographic, behavioral, clinical and syphilis during pregnancy).

It is noteworthy that the variables that obtained a *p* value less than 0.05 in the bivariate tests, that is, they achieved a positive association in relation to loss to follow-up, were used in the multiple logistic regression model to obtain the strength, Odds Ratio (OR), of these associations in the explanation of loss to follow-up. The SIM category for loss to follow-up was adopted as a reference.

The ethical aspects related to research with human beings were followed, complying with the prerogatives of Resolution number 466/2012 of the National Health Council, being approved by the Research Ethics Committee of the Federal University of Piauí, opinion 2,975,828. In addition, the participants were informed by means of an Informed Consent Form about the content of the research, as well as about the possible risks and benefits.

RESULTS

Seventy-three pregnant women participated, and the prevalence of gestational syphilis was 1.37%. Adherence to clinical and laboratory follow-up occurred in 25 participants (34.3%). The age ranged from 18 to 45 years, with greater loss to follow-up in the age group from 21 to 30 years (22;45.8%); 43 (58.9%) had less than 12 years of regular schooling, and of these, 27 (56.3%) had loss to follow-up (*p=0.619*); 69 (94.5%) participants self-identified as non-white, with loss to follow-up of 44 (91.7%); and 61 (93.9%) had a *per capita* income of less than one minimum wage; having an affective partner 62 (83.6%) was associated with loss to follow-up (*p=0.012*) (Table 1).

Table 1. Sociodemographic factors of pregnant women with syphilis who adhered to clinical and laboratory follow-up in primary care. Teresina, Piauí, Brazil, 2019.

Variable	Total Marginal (%)	Loss to Follow-up				*p*-value
		Yes		No		
		n	%	n	%	
Age group (in years)						0.812**
18 to 20	14 (19.2)	10	20.8	4	16.0	
21 to 30	33 (45.2)	22	45.8	11	44.0	
≥ 31	26 (35.6)	16	33.3	10	40.0	
Schooling						0.619*
< 12	43 (58.9)	27	56.3	16	64.0	
≥ 12	30 (41.1)	21	43.8	9	36.0	
Race/Color						0.292*
White	4 (5.5)	4	8.3	0	0.0	
Non white	69 (94.5)	44	91.7	25	100.0	
***Per capita* income**						0.622*
< 1MW***	61 (93.9)	39	95.1	22	91.7	
≥ 1MW	4 (6.1)	2	4.9	2	8.3	
Paid work						0.248*
Yes	17 (23.3)	9	18.8	8	32.0	
No	56 (76.7)	39	81.3	17	68.0	
Have a loving partner						**0.012***
Yes	62 (83.6)	38	79.2	23	92.0	
No	11 (15.1)	10	20.8	2	8.0	

*Fisher's exact test * Chi-square test Significance Level
*** MW=Minimum wage in Brazil: R$998.00 (nine hundred and ninety-eight reais), referring to the year 2019.

Sexual behavior showed that 40 (54.8%) reported not using condoms at first sexual intercourse; 52 (71.3%) reported not using condoms; and 62 (84.9%) knew about female condoms (Table 2).

Table 2. Analysis of loss to follow-up in pregnant women exposed to syphilis in primary care by behavioral characteristics. Teresina, Piauí, Brazil, 2019.

Variable	Total Marginal (%)	Loss to Follow-up				*p*-value
		Yes		No		
		n	%	n	%	
Condom use during first sexual intercourse						0,220
Yes	33 (45,2)	19	39,6	14	56	
No	40 (54,8)	29	60,4	11	44	
Uses condom with current partnership						1,000
No	52 (71,3)	31	83,8	21	84	
Yes	10 (13,7)	6	16,2	4	16	
Know the female condom						0,311
Yes	62 (84,9)	39	81,3	23	92	
No	11 (15,0)	9	18,8	2	8	
Use of illegal drugs						0,158
Yes	5 (6,8)	5	10,4	0	0	
No	68 (93,1)	43	89,6	25	100	
Use of alcohol						1,000
Yes	11 (15,1)	7	14,6	4	16	
No	62 (85,0)	41	85,4	21	84	

*Fisher's exact test. With a 0.05 level of significance.

The performance of some type of care at the BHU, before the current pregnancy, was reported by 57 (78.1%); 16 (28%) had not yet undergone a test for the investigation of syphilis; 50 (96%) were tested for the detection of syphilis in the previous pregnancy; and 16 (30.8%) had a reactive result for syphilis; 65 (89.1%) performed prenatal care regularly; and 39 (53.4%) had a record on the card

of seven or more consultations; 71 (97.2%) reported having been tested for syphilis in the current pregnancy; and 69 (94.5%) confirmed having received information about the risk of vertical transmission. Of those who did not claim to have received information, four (5.5%) lost clinical follow-up p=0.179 (Table 3).

Table 3. Analysis of adherence to clinical and laboratory follow-up in pregnant women exposed to syphilis in primary care considering access to prenatal care. Teresina, Piauí, Brazil, 2017

Variable	Total Marginal (%)	Loss to Follow-up Yes n	Yes %	No n	No %	*p*-value
Previous follow-up at BHU						0,148*
Yes	57 (78,1)	40	83,3	17	68	
No	16 (22,0)	8	16,7	8	32	
Rapid syphilis test at BHU						0,523*
Yes	41 (72,0)	30	75	11	65	
No	16 (28,0)	10	25	6	35	
Total pregnancy (categorized)						0,289**
One to two	41 (56,1)	26	54,2	15	60	
three to four	23 (31,5)	14	29,2	9	36	
Five or more	9 (12,4)	8	16,7	1	4	
Rapid test for syphilis previous pregnancy						1,000*
Yes	50 (96,0)	35	94,6	15	100	
No	2 (4,0)	2	5,4	0	0	
Test result in current pregnancy						1,000*
Reagent	16 (30,8)	11	31,4	5	29,4	
Non-reagent	36 (69,2)	24	68,6	12	70,6	
Prenatal care						0,707*
Yes	65 (89,1)	42	87,5	23	92	
No	8 (10,9)	6	12,5	2	8	
Advised on the risk of transmission to the baby						0,179*
Yes	69 (94,5)	44	91,7	25	100	
No	4 (5,5)	4	8,3	0	0	
Condom use in current pregnancy						0,773*
Yes	18 (30,0)	12	32,4	6	26	
No	42 (70,0)	25	67,6	17	74	
Advised on condom use						0,342*
Yes	64 (87,7)	41	85,4	23	92	
No	9 (12,3)	7	14,6	2	8	
Test for syphilis in current pregnancy						0,543*
Yes	71 (97,2)	46	95,8	25	100	
No	2 (2,7)	2	4,2	0	0	
Number of prenatal appointments						0,466*
Up to six	34 (46,6)	24	50	10	40	
Seven or more	39 (53,4)	24	50	15	60	

*Fisher's exact test * Chi-square test. With a 0.05 level of significance.

The diagnosis of syphilis in the current pregnancy occurred in the first quarter in 33 (45.2%); in the second quarter, in 26 (35.6%); and in the third quarter, in 14 (19.2%), and had a significant association with adherence to follow-up *p=0.041* (Table 4).

Regarding the VDRL result, 71 (97.3%) knew how to report the result of the first VDRL; 37 (53.6%) had a titration above 1/8. The majority, 72 (98.6%), reported having been informed about the importance of treatment; 24 (33.8%) reported having received information during medical and nursing consultations, in both consultations. More than half, 38 (52.1%) had a consultation performed by the nurses and a significant association with adherence to follow-up (p=0.39); 64 (87.6%) started treatment after diagnosis with a significant association with adherence to follow-up (p=0.023).

Table 4. Analysis of adherence to clinical and laboratory follow-up in pregnant women exposed to syphilis in primary care by prenatal characteristics. Teresina, Piauí, Brazil, 2019.

Variable	Total Marginal (%)	Loss to Follow-up				*p*-value
		Yes		No		
		n	%	n	%	
Diagnosis of syphilis						***0,041****
1st quarter	33 (45,2)	18	37,5	15	60	
2nd quarter	26 (35,6)	17	35,4	9	36	
3rd Quarter	14 (19,2)	13	27,1	1	4	
Result 1st VDRL exam						0,333*
Yes	71 (97,3)	48	100	23	95,8	
No	1 (1,4)	0	0	1	4,2	
VDRL titration						0,125*
Up to 1/8	32 (46,4)	18	39,1	14	60,9	
Above 1/8	37 (53,6)	28	60,9	9	39,1	
Information about treatment						1,000*
Yes	72 (98,6)	47	97,9	25	100	
No	1 (1,4)	1	2,1	0	0	
Treatment guidance						0,147**
during the consultation	24 (33,8)	15	32,6	9	36	
during the nursing consultation	24 (33,8)	19	41,3	5	20	
Pregnant woman meeting	23 (32,4)	12	26,1	11	44	
Professional who performed prenatal care						***0,039***
Nurse	38 (52,1)	30	62,5	8	32	
Physician	23 (31,5)	11	22,9	12	48	
Nurse and physician	12 (16,4)	7	14,6	5	20	
Start of treatment after diagnosis						***0,023****
Yes	64 (87,6)	39	81,3	25	100	
No	9 (12,3)	9	18,8	0	0	

*Fisher's exact test * Chi-square test. With a 0.05 level of significance.

According to the multivariate analysis, the results showed that the variables "Companion" and "Started treatment" can be protective, that is, pregnant women diagnosed with syphilis who have an affective partner have 40% [100x(1-0.607)] less chance of loss to follow-up, and those who started treatment after diagnosis had 64% less chance of loss to follow-up, which is not statistically significant (Table 5).

In relation to the quarter in which prenatal care begins, it was found that the later the diagnosis of syphilis, the more chances there are of loss to follow-up. With each month of pregnancy that passes without receiving a diagnosis, the chances of loss increase approximately fourfold (p<0.01). When the professional who performs prenatal care is a physician and nurse, it is noted that the chances of loss to follow-up reduce by 66% and 36%, respectively, when compared to prenatal care performed only by nurses, although not statistically significant (Table 5).

Table 5. Multivariate analysis of factors associated with loss to follow-up in pregnant women exposed to syphilis in primary care. Teresina, Piauí, Brazil, 2019.

Variables	Coefficient	Standard error	Wald	*p*-value	OR	CI (95%) for OR
Affective companion*	-0.499	0.749	0.444	0.505	0.607	(0.14 - 2.63)
Started treatment*	-1.012	0.826	1.501	0.22	0.363	(0.07 - 1.84)
Months of gestation	1.442	0.414	12.136	**<0.01**	4.229	(1.88 - 9.52)
Professional prenatal consultation	-	-	2.817	0.245	-	-
Physician	-1.072	0.639	2.813	0.094	0.342	(0.098 - 1.198)
Nurse and physician	-0.447	0.793	0.318	0.573	0.639	(0.135 - 3.028)

*Partner: has a partner; months of gestation: months of gestation when she received the diagnosis of syphilis; professional prenatal consultation: her prenatal consultation is carried out, most of the time, by a professional; she started treatment after diagnosis. * Reference category: "Yes".

DISCUSSION

Adherence to clinical and laboratory follow-up of pregnant women with syphilis was low, with a statistically significant association with the variables having an affective partner, starting treatment at the

time of diagnosis and receiving prenatal consultation with physicians and nurses. Studies carried out in other regions of Brazil corroborate these findings[12,13].

Pregnant women diagnosed in the first quarter of pregnancy had greater adherence to clinical follow-up. In the national scenario, it was evidenced that late diagnosis, after delivery, and inadequate treatments were associated with loss to follow-up[10]. A survey carried out in Piauí, state of the municipality where this research was carried out, pointed out that a major problem identified in the present study is the non-treatment of the partner, whether due to his refusal, abandonment of treatment or abandonment of the pregnant woman. This problem is one of the main reasons for the growing increase in congenital syphilis[14]. It is suggested that greater coverage in the screening, diagnosis and early uptake of pregnant women for prenatal care are measures that can contribute to adherence to follow-up. It also reinforces the importance of calling for sexual partnerships to carry out tests for STI/HIV, with emphasis on adherence to treatment.

In this study, there was a significant association with the professional who performs prenatal care, because, when performed only by a health professional, the rate of abandonment to follow-up was higher. Although there is no scientific evidence on these findings, there is a wide recommendation for concomitant prenatal care. The need to prioritize public policies with the involvement of health authorities, health managers and the general population is also recognized, which can lead to changes in the current scenario of syphilis in the country[15].

It is noteworthy how important is the assistance in Primary Health Care by a qualified team supported by the best scientific evidence, to qualify health promotion, prevention and recovery actions, in order to make them more effective and efficient, both individually and collectively, respecting the different life cycles and social and family contexts.

It should be noted that, in relation to the consultation with a professional, the updating of this is a determining aspect regarding the quality of care for pregnant women diagnosed with syphilis, thus, it is necessary that the municipal governments are always offering training on the management of infection in the Family Health Strategy (FHS) and the professionals themselves seek more knowledge[16]. The importance of expanding training among health professionals with a focus on addressing STIs/HIV is recognized, as well as care practices based on the best scientific evidence, in order to increase adherence to follow-up.

Young, low-educated and non-white pregnant women showed low adherence to follow-up. A similar finding was identified in a study in the state of Goiás, carried out in Brazil, in which low education, as well as socioeconomic conditions and quality of health care were associated with loss to follow-up[17,18]. It is suggested that, in the approach and planning of maternal public policies, the sociodemographic profile should be a priority for greater effectiveness of practical actions; and also that other sectors of society, such as education, should be involved in order to have health training in wide dissemination in society.

The number of pregnant women who reported having an affective partner was high. This situation can be considered a protective factor, as pregnant women diagnosed with syphilis who have a partner are 40% less likely to lose follow-up. It is evident that pregnant women with multiple sexual partners had a significant association with syphilis seropositivity[19]. This suggests that the probability of reinfection after treatment decreases due to lower exposure in relation to the number of partners. The results of this study also confirm this information because the loss to follow-up was higher in women without affective partnership.

Regarding sexual behavior, condom use was reported to a lesser extent in the first sexual intercourse and during the current pregnancy. Although no significant association was observed between syphilis and condom use, the risk of infection was almost four times higher among women who were unaware of STI prevention through condom use[20].

Attendance and regularity in prenatal consultations were frequent and more than half of the participants had a record of seven or more consultations and had no association with loss to follow-up. In the Northeast region of Brazil, a study showed similar results in 80% of pregnant women[21], in which consultations were carried out by nurses or physicians and nurses and physicians concomitantly. Statistical significance was shown when the consultation was performed by nurses and physicians (p=0.039) in this research.

Most pregnant women had already received

some type of care at the BHU at the time of their previous pregnancy. However, less than half had been tested for syphilis. And this becomes a cause for concern due to the time of exposure and maintenance of the transmission chain due to the lack of early diagnosis. Studies have shown that the risk of syphilis is higher in women with a previous history of other STIs[20]. Expanding the early uptake of pregnant women, as well as screening and testing for syphilis, is essential to avoid complications to maternal and child health and reduce the chain of transmissibility.

Still regarding the missed opportunities for screening for gestational syphilis, as well as in the management, there are difficulties faced by pregnant women to perform the VDRL exam related to the difficult access to prenatal consultations, the limit in the collection of monthly exams, long queues, delays in obtaining the result, access to tests, treatment and lack of standardized strategies to notify the partner, negatively influencing the management of syphilis[22,23]. The organization in relation to the management of gestational syphilis is essential for the detection and follow-up of cases, the absence of these resources can influence higher prevalences.

The non-treatment of the partner concomitant with the pregnant woman was a reality in this study. This difficulty in treating the partner has been reported in another research, in which the factors most associated with the non-treatment of partners of pregnant women with syphilis were: structuring/quality of services under the aspect related to failures in prenatal care, characteristics of pregnant women that interfere in the treatment of partners and aspects related to cultural particularities that involve men's health care[18].

Low partner adherence may be associated with limited knowledge, fear of injection, and lack of communication skills [23]. This suggests that there is a need for greater investment in individual and/or collective guidance regarding condom use, regardless of the type of partnership, as well as the strengthening of individual and collective strategies for greater adherence to treatment.

The prevalence of syphilis in this study was considered low when compared to China (3.17%)[24]; and compatible when compared to a study conducted in Ethiopia[20]. In the national scenario, the prevalence ranged from 7.7% in the Midwest to 44.6% in the Southeast [4]. The data presented show that there is a difference in the detection and notification of syphilis cases in different places, even considering a single country. In Brazil, the rate of diagnoses and records is still low, even the follow-up being carried out during prenatal, delivery and puerperium.

Authors who point out the difficulties faced in Primary Health Care (PHC) in the control of syphilis, such as the lack of technical capacity for the diagnosis and identification of the stages of the disease, as well as the short time working in PHC, a skill not required by professionals when working in the hospital service, thus allowing them to recognize themselves as protagonists of their work process and capable of resolutely and effectively serving people with syphilis, taking into account all interfaces related to access and adherence to treatment[27]. It is urgent and suggests greater investments in training and qualification through technical-scientific training in the STI approach for professionals working in the Primary Care Network, at different levels of activity and practical scenarios.

Research concludes that primary care for gestational syphilis in Brazil has important obstacles to its effectiveness in terms of improving prenatal care, as well as investing in the qualification of health professionals involved and in the creation of specific programs to combat congenital syphilis. Such improvements are urgent, indispensable, and can change the national maternal and child health landscape[28].

CONCLUSION

The following were evidenced as protective factors for gestational follow-up: having an affective partner; having a diagnosis of syphilis in the first quarter with treatment and prenatal care performed by a physician and nurse, necessary to reduce the loss to follow-up of pregnant women with syphilis. However, the closer the pregnant women were to the date of delivery and without the diagnosis of syphilis, the greater the chances of loss of treatment and follow-up of syphilis. This investigation also made it possible to show that being a young pregnant woman, having little education, being non-white, having a reduced *per capita* income, not using a condom in the first sexual intercourse, not using a condom with a current partnership and having high serological titers had higher frequencies of non-adherence to follow-up, although not associated.

It is emphasized that there are different factors that can influence the adherence to follow-up of pregnant women with syphilis, these may be related to sociodemographic and behavioral conditions, the woman's own perceptions and her care during prenatal care. Identifying these barriers in different contexts can contribute to the development of more targeted and specific strategies with the objective of identifying and treating syphilis cases earlier, as well as reducing vertical transmission rates. As a limitation of this study, there is the sample size, which, because it is small, makes generalizations impossible. However, the results allow us to visualize different associated and non-associated factors that may influence adherence to follow-up.

It should be reiterated that primary care plays a fundamental role in the follow-up of pregnant women with syphilis, and that the identification of barriers to adherence to follow-up can contribute to the development of more targeted and specific strategies, such as strengthening health education and case screening, in order to reduce vertical transmission rates.

FATORES ASSOCIADOS À ADESÃO AO SEGUIMENTO CLÍNICO E LABORATORIAL DE GESTANTES COM SÍFILIS

RESUMO

Objetivo: analisar os fatores associados àadesão ao seguimento clínico e laboratorial de gestantes com sífilis. **Método:** estudo analítico, realizado em Unidades Básicas de Saúde, com 73 gestantes com sífilis, de maio de 2019 a maio de 2020, em um capital do Nordeste brasileiro. Coleta de dados ocorreu em três etapas: (1) levantamento dos casos de gestantes com sífilis, (2) aplicação de um formulário durante o pré-natal, elaborado pelos pesquisadores, para coleta das variáveis sociodemográficas, comportamentais e clínicas, e, (3) após o parto, coleta de dados referente ao desfecho final da gestação. A pesquisa utilizou a análise descritiva e a regressão logística, todos os testes com $p< 0,05$. **Resultados:** adesão ao seguimento clínico e laboratorial ocorreu em 25 (34,3%) gestantes; e seguem a associação com as variáveis: ter companheiro afetivo (*p=0,012*), sífilis no primeiro trimestre de gestação (*p=0,041*), início do tratamento no momento do diagnóstico (*p=0,023*) e pré-natal realizado por dois profissionais, médico(a) e enfermeiro(a) (p=0,039). **Conclusão:** a adesão foi considerada baixa. A análise multivariada aponta que ter companheiro e tratamento imediato podem indicar redução da perda do seguimento. A atenção primária tem papel fundamental no acompanhamento de gestantes com sífilis; identificar as barreiras relacionadas àadesão ao seguimento pode contribuir para a elaboração de estratégias mais direcionadas e específicas.

Palavras-chave: Perda de seguimento; Sífilis; Gestantes; Transmissão vertical de doenças infecciosas; Fatores de risco.

FACTORES ASOCIADOS A LA ADHESIÓN AL SEGUIMIENTO CLÍNICO Y DE LABORATORIO DE GESTANTES CON SÍFILIS

RESUMEN

Objetivo: analizar los factores asociados a la adhesión al seguimiento clínico y de laboratorio de gestantes con sífilis. **Método**: estudio analítico, realizado en Unidades Básicas de Salud, con 73 gestantes con sífilis, de mayo de 2019 a mayo de 2020, en un capital del Nordeste brasileño. La recolección de datos ocurrió en tres etapas: (1) prospección de los casos de gestantes con sífilis, (2) aplicación de un formulario durante el prenatal, elaborado por los investigadores, para recolección de las variables sociodemográficas, comportamentales y clínicas, y, (3) después del parto, recolección de datos referente al desenlace final de la gestación. La investigación utilizó el análisis descriptivo y la regresión logística, todas las pruebas con *p<0,05*. **Resultados**: adhesión al seguimiento clínico y de laboratorio ocurrió en 25 (34,3%) gestantes; y siguen la asociación con las variables: tener compañero afectivo (*p=0,012*), sífilis en el primer trimestre de gestación (*p=0,041*), inicio del tratamiento en el momento del diagnóstico (*p=0,023*) y prenatal realizado por dos profesionales, médico(a) y enfermero(a) (*p=0,039*). **Conclusión**: la adhesión se consideró baja. El análisis multivarianteseñala que tener compañero y tratamiento inmediato pueden indicar reducción de la pérdida del seguimiento. La atención primaria tiene un papel fundamental en el seguimiento de gestantes con sífilis; identificar las barreras relacionadas a la adhesión al seguimiento puede contribuir para la elaboración de estrategias más direccionadas y específicas.

Palabras clave: Pérdida de seguimiento. Sífilis. Gestantes. Transmisión vertical de enfermedades infecciosas. Factores de riesgo.

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