

Assessment of the appropriate management of syphilis patients in primary health care in different regions of Brazil from 2012 to 2018

Avaliação do manejo adequado de pacientes com sífilis na atenção primária em diferentes regiões do Brasil entre 2012 e 2018

Evaluación de una gestión apropiada de pacientes con sífilis en la atención primaria en diferentes regiones de Brasil entre 2012 y 2018

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Abstract

This study aimed to analyze the presence of adequate infrastructure and work process in primary health care for the diagnosis, management, and treatment of syphilis in Brazil in 2012, 2014, and 2018. This is a cross-sectional, nationwide study with data from the three cycles of the Program for Improvement of Access and Quality of Basic Healthcare (PMAQ-AB): 2012 (Cycle I), 2014 (Cycle II), and 2018 (Cycle III). Two outcomes were assessed: adequate infrastructure and work process. The independent variables were macroregion, municipality size, Municipal Human Development Index (HDI-M), and coverage of the Family Health Strategy (FHS). Variance-weighted least squares regression was used to estimate annual changes in percentage. In total, 13,842 primary basic health units (UBS) and 17,202 professional health care teams were assessed in Cycle I; 24,055 UBS and 29,778 teams in Cycle II, and 28,939 UBS and 37,350 teams in Cycle III. About 1.4% of UBS had adequate infrastructure in Cycle I; 17.5% had in Cycle II; and 42.7% had in Cycle III. Adequate work process also increased in the three cycles, ranging from 47.3% in Cycle I to 45.5% in Cycle II and 75.4% in Cycle III. However, inequities are observed, considering that richer regions and larger municipalities, with higher HDI-M and lower FHS coverage improved the most. The low prevalence of adequate infrastructure and work process for the care of patients with syphilis in Brazil reflects a significant weakness in the Brazilian health system.

Syphilis; Primary Health Care; Program Evaluation; Socioeconomic Factors

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Introduction

Syphilis is a sexually transmitted infection (STI) caused by the bacterium *Treponema pallidum*, usually transmitted by contact with infectious wounds, by blood transfusion, or by mother-to-child during pregnancy. Despite the effective methods of prevention, an easy diagnosis and low-cost treatment for the disease are still a public health problem, especially in low- and middle-income countries ¹. Moreover, when not treated properly, the disease lasts for years and can cause serious problems, especially congenital syphilis – considered the second leading cause of stillbirths worldwide –, abortion, low birth weight, prematurity, and congenital malformations ².

Estimates indicate 6.3 million new cases of syphilis per year worldwide, with an approximate global prevalence of 0.5% ³. The World Health Organization (WHO) reports the highest prevalence of the infection among pregnant women (3.2%), sex workers (10.8%), and homosexual men (11.8%) ^{1,4,5}. Internationally, the incidence rate of syphilis has recently increased (2012-2018) ⁶. From 2012 to 2018, acquired syphilis increased from 14.4 to 76.2/100,000 inhabitants, gestational syphilis increased from 5.7 to 21.5/100,000, and congenital syphilis increased from 4.0 to 9.0/100,000 ⁷. Syphilis is a disease of mandatory notification and, in Brazil, the infection profile is currently linked to the capacity of health services to detect and notify cases. Data on the monitoring and tracking of the disease are still incipient since the literature rarely addresses its diagnosis and drug treatment ⁸.

Despite the increased registration of cases, syphilis is greatly underreported, which can affect health planning and result in a lack of necessary supplies for the infection's diagnosis, management, and treatment ^{8,9}. Obstacles in the elimination of syphilis include late diagnosis, discontinuity in treatment, and inadequate prenatal care ^{10,11}.

Several authors reinforce that focusing on prevention is essential to reduce syphilis prevalence, with actions to guide the use of condoms and especially the massive availability of tests and medications ^{11,12}. Rapid point-of-care testing has been suggested as an effective screening method for high-risk populations and the WHO considers the availability of penicillin essential to eradicate the disease ^{13,14}.

In Brazil, primary healthcare (PHC) conducts the diagnosis, management, and treatment of syphilis. From 2012 to 2018, based on government initiatives, PHC expanded its coverage in the national territory and encouraged the qualification of services, mainly from the three cycles of the Program for Improvement of Access and Quality of Basic Healthcare (PMAQ-AB) ¹⁵. On the other hand, as aforementioned, the number of syphilis cases in Brazil increased in this same period ¹⁶.

Despite the long history of syphilis in Brazil and its serious consequences for public health, the health system has only recently created responses to further combat the problem, emphasizing the relevance of assessing this topic. This article aimed to analyze the infrastructure and adequate work process in PHC for the diagnosis, management, and treatment of syphilis in Brazilians based on data from the three cycles of the PMAQ-AB.

Methodology

This is a cross-sectional study with data from the external assessment of the three cycles of the PMAQ-AB. The PMAQ-AB was established by the Brazilian Federal Government with *Decree n. 1,654* of April 19, 2011, to expand access to and to improve the quality of PHC based on the assessment of PHC services. The program had three cycles of external assessment, conducted from: May to December 2012 for Cycle I; November 2013 to October 2014 for Cycle II; and July 2017 to August 2018 for Cycle III. Membership in the PMAQ-AB was voluntary and the proportion of participating municipalities increased over the three cycles: from 71% in Cycle I to 91% in Cycle II and 96% in Cycle III.

Data were collected by 41 Brazilian higher education institutions (HEIs) led by eight institutions over the three cycles – UFPel (Federal University of Pelotas), UFRGS (Federal University of Rio Grande do Sul), Fiocruz (Oswaldo Cruz Foundation), UFMG (Federal University of Minas Gerais), UFBA (Federal University of Bahia), UFRN (Federal University of Rio Grande do Norte), UFS (Federal University of Sergipe), and UFPI (Federal University of Piauí).

In the three cycles, data were collected by previously trained interviewers using electronic forms on tablets for automated registration and submission to the central server at the Brazilian Ministry of Health. Continuous supervision of the field work was conducted to ensure the quality of the collected data and consistency checking using an electronic data validator. Each institution leading the external assessment was responsible for solving inconsistencies. More details about the PMAQ-AB methodology can be found in publications and documents from the Brazilian Ministry of Health ^{17,18}.

The data collection instrument contained structured questions prepared by the Brazilian Ministry of Health in partnership with the leading HEIs and was divided into three modules. The first module verified the infrastructure of the basic health units (UBS) and the second assessed the work process of the teams by interviewing health care professionals. The third module was answered by users who were present at the UBS on the day of data collection, addressing their perception of the care received.

For this study, information on the UBS infrastructure modules and the professional work process of the teams were used in the three assessment cycles. For the construction of the outcomes, available variables that were related to the infrastructure and work process for diagnosis, management, and treatment of syphilis were selected. Based on the identification of these variables, two outcomes were created:

(1) Adequate infrastructure for diagnosis, management, and treatment of patients with syphilis: Affirmative answer to the presence of personal protective equipment (PPE), rapid syphilis tests, and benzylpenicillin benzathine. The affirmative answer to the three investigated items was considered as having an adequate infrastructure.

(2) Adequate work process for diagnosis, management, and treatment of patients with syphilis: Affirmative answer to the questions “Does the team request serology for syphilis?”; “Is the offer of services and referrals for pregnant women based on the assessment and classification of risk and vulnerability?”; “Does the team request HIV serology?”; “Is penicillin G benzathine applied at UBS?”. An affirmative answer to the four investigated items was considered as having an adequate work process.

Regarding independent variables, we investigated geographic macroregions (North, Northeast, Central-West, Southeast, and South); size of the municipality (up to 10,000 inhabitants, from 10,001 to 30,000, from 30,001 to 100,000, from 100,001 to 300,000, and over 300,000 inhabitants); HDI-M (low: up to 0.554; medium: from 0.555 to 0.699; high: from 0.700 to 0.799; and very high: 0.800 or more); and Family Health Strategy (FHS) population coverage (up to 50%, 50.1% to 75%, 75.1% to 99.9%, 100%) ¹⁹.

The adequate infrastructure outcome was assessed considering the number of UBS evaluated. For the adequate work process outcome, the number of health care teams investigated was considered. The variables of each of the outcomes for the three cycles of the PMAQ-AB were initially described. The prevalence of each outcome in each evaluation cycle was calculated. To identify the difference between cycles, weighted least square regression was done to estimate percentage annual changes in the prevalence values. A significance level of 5% was adopted. All analyses were performed using the Stata 15.0 statistical package (<https://www.stata.com>).

The three studies were approved by the Ethics Research Committee (CEP). Cycle I was approved by the CEP of the Medical School of UFPel via official letter (n. 38/2012); Cycle II had a favorable opinion issued by the CEP of Federal University of Goiás (opinion n. 487,055) on December 12, 2013; and Cycle III was approved by the CEP of the Medical School of UFPel with assent (n. 2,453,320). All participants signed an informed consent form. The authors declare no conflicts of interest regarding the study.

Results

On the external assessment of the PMAQ-AB, 13,842 UBS and 17,202 teams were assessed in Cycle I; 24,055 UBS and 29,778 teams in Cycle II; and 28,939 PHCCs and 37,350 teams in Cycle III. Table 1 lists the distribution of UBS and teams according to region, population size of the municipality, HDI-M, and family health coverage in each of the three cycles of the PMAQ.

Table 1

Sample distribution of basic health units (UBS) and health care teams according to region, population size, HDI-M, and family health coverage. PMAQ-AB, Brazil 2012, 2014, and 2018.

Characteristic	Cycle I 2012		Cycle II 2014		Cycle III 2018	
	UBS	Teams	UBS	Teams	UBS	Teams
	%	%	%	%	%	%
Region (n)	13,842	17,202	24,055	29,778	28,939	37,350
North	5.8	4.3	7.0	6.0	7.8	8.2
Northeast	36.7	32.3	40.3	36.2	41.6	37.0
Southeast	33.4	38.2	30.0	33.9	29.0	33.4
South	17.3	17.0	15.0	15.1	14.4	14.7
Central-West	6.8	8.2	7.6	8.7	7.2	6.7
Population size (n)	13,842	16,993	24,051	29,774	28,856	37,257
Up to 10,000	17.0	15.0	14.8	13.3	14.4	12.7
10,001-30,000	32.6	27.7	32.6	27.8	32.3	26.9
30,001-100,000	24.0	20.6	26.0	22.9	27.0	23.8
100,001-300,000	11.9	12.1	12.8	13.3	12.8	13.9
Over 300,000	14.5	24.6	13.8	22.7	13.6	22.7
HDI-M (n)	13,842	16,949	24,054	29,777	28,848	37,249
Low (below 0.554)	2.2	1.9	5.7	4.9	6.3	5.4
Medium (0.555-0.699)	37.4	32.0	50.3	43.9	51.3	44.8
High (0.700-0.799)	39.6	37.2	38.8	41.0	37.8	41.1
Very high (0.800 or over)	20.8	29.0	5.2	10.2	4.6	8.8
Family health coverage (n)	13,842	17,202	24,055	29,777	28,856	37,257
Up to 50.0	22.9	28.5	15.6	29.8	10.9	15.0
50.1-75.0	24.2	25.3	17.5	23.7	17.0	19.7
75.1-99.9	22.1	19.4	20.5	19.4	21.3	21.1
100.0	30.8	26.8	46.4	27.1	50.9	44.2

HDI-M: Municipal Human Development Index; PMAQ-AB: Program for Improvement of Access and Quality of Basic Healthcare.

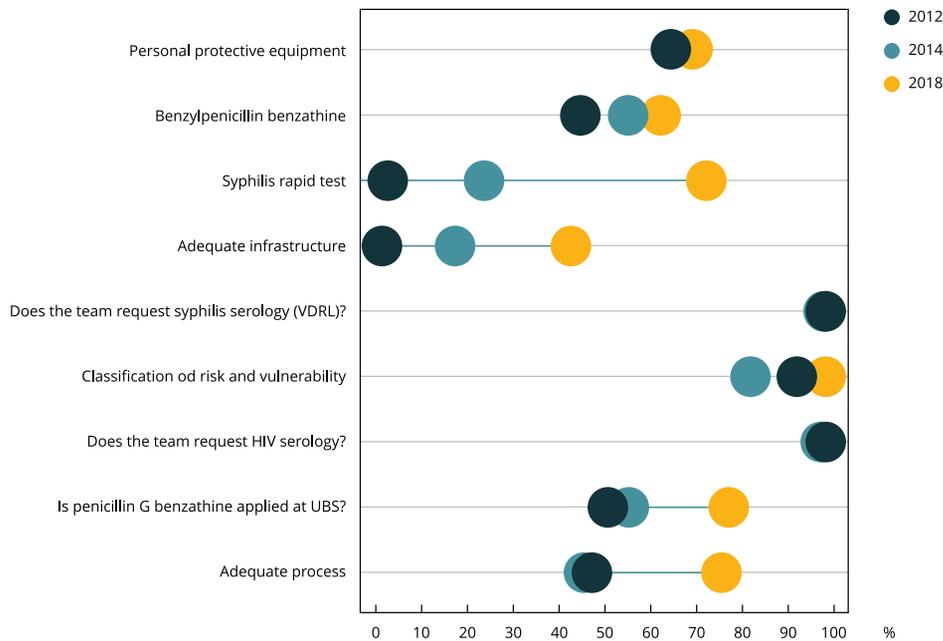
In the three assessment cycles, the region with the highest prevalence of investigated PHCs was the Northeast (36.7%, 36.2%, and 41.6% in each of the cycles, respectively). In Cycle I, most teams were located in the Southeast Region (38.2%), while in Cycles II and III, most were in the Northeast Region (36.2% and 37%). Regarding size, most of the evaluated UBS and teams were located in municipalities ranging between 10,001 and 30,000 inhabitants. UBS and teams were prevalent in municipalities with high HDI-M (39.6% and 37.2%) in Cycle I and in municipalities with medium HDI-M in Cycles II and III (50.3% UBS and 43.9% teams from medium HDI-M municipalities in Cycle II and 51.3% PHC and 44.8% teams in Cycle III). In the three cycles, the number of PHC and teams investigated was greater in municipalities with 100% family health coverage (Table 1).

Figure 1 shows the distribution of outcome variables. Among variables related to the infrastructure outcome, we observed that the low prevalence of rapid testing for syphilis in Cycle I (1.4%) increased in Cycle III (72.1%); in Cycle III, less than 70% of UBS had medication and PPE for the management and treatment of syphilis, especially penicillin G benzathine. From the work process outcome, we found that the use of penicillin G benzathine in the UBS increased about 26 percentage points (p.p.) between cycles, reaching 77.1% in Cycle III (Figure 1).

Regarding the prevalence of adequate infrastructure for diagnosis, management, and treatment of syphilis in Brazil, we identified that only 1.4% of UBS had minimal infrastructure in Cycle I, increasing to 17.5% in Cycle II and 42.8% in Cycle III, with an annual change of 7.0p.p. (Table 2).

Figure 1

Prevalence of items related to the infrastructure and work process for syphilis diagnosis, management, and treatment. PMAQ-AB, Brazil, 2012, 2014, and 2018.



PMAQ-AB: Program for Improvement of Access and Quality of Basic Healthcare; UBS: basic health units.

Adequate infrastructure significantly increased in all regions among the three evaluations; however, the North and Northeast saw smaller increases. The presence of adequate infrastructure also progressively increased from Cycle I to Cycle III in all investigated municipality sizes – with greater annual change in p.p. in municipalities ranging between 100,001 and 300,000 inhabitants – and in the four investigated strata of HDI-M, particularly in Cycle III; the higher the HDI-M, the higher the prevalence of infrastructure. Similarly, municipalities with low HDI-M had an average 4.7p.p. annual change in adequate infrastructure whereas municipalities with high HDI-M reached 11.9p.p. In the three cycles, infrastructure prevalence was inversely proportional to FHS coverage: the lower the FHS coverage, the higher the prevalence of adequate infrastructure for diagnosis, management, and treatment of syphilis, with a difference of approximately 3.0p.p. between the annual change of municipalities with coverage up to 50% (9.5p.p.) and those with 100% coverage (6.2p.p.) (Table 2).

The adequate work process for diagnosis, management, and treatment of syphilis, increased in about 30p.p. between Cycles I and III, with an average annual change of 5.7p.p. The Southeast Region had the lowest prevalence of adequate work process in Cycle III (69.4%) and the lowest annual change (3.8p.p.) between cycles. Larger municipalities had a higher prevalence of this research outcome in Cycle III (83.3%) and the annual change was greater in municipalities ranging between 10,001 and 30,000 inhabitants (7.3p.p.). The lower the HDI-M, the lower the prevalence of an adequate work process was in the three cycles; however, the annual change in municipalities with low, medium, and high HDI-M was two to three times higher than in those with very high HDI-M. Municipalities with up to 50% of FHS coverage had higher adequate work process prevalence in Cycle III (82.8%), but their annual change was almost twice smaller than that of municipalities with 100% FHS coverage (Table 3).

Table 2

Prevalence of basic health units (UBS) with adequate physical infrastructure for diagnosis and treatment of syphilis according to characteristics of the municipality. PMAQ-AB, Brazil, 2012 (n = 13,842), 2014 (n = 24,055), and 2018 (n = 28,939).

Characteristic	Cycle I %	Cycle II %	Cycle III %	Annual change p.p.	p-value
Brazil	1.4	17.5	42.7	7.0	< 0.001
Region					
North	4.3	20.9	33.3	5.1	< 0.001
Northeast	0.9	12.3	35.7	5.8	< 0.001
Southeast	1.1	19.2	50.5	8.3	< 0.001
South	1.6	28.2	57.7	9.7	< 0.001
Central-West	2.6	16.3	44.0	6.9	< 0.001
Population size					
Up to 10,000	2.3	23.0	44.9	7.4	< 0.001
10,001-30,000	0.8	12.2	34.2	5.6	< 0.001
30,001-100,000	1.3	14.1	38.7	6.2	< 0.001
100,001-300,000	1.3	20.9	49.0	9.6	< 0.001
Over 300,000	2.2	25.7	58.6	4.6	< 0.001
HDI-M					
Low (below 0.554)	1.0	8.6	29.8	4.7	< 0.001
Medium (0.555-0.699)	1.0	13.9	35.7	5.9	< 0.001
High (0.700-0.799)	1.7	21.5	51.3	8.5	< 0.001
Very high (0.800 or over)	1.5	30.7	71.0	11.9	< 0.001
Family health coverage					
Up to 50.0	1.7	29.2	54.3	9.5	< 0.001
50.1-75.0	1.1	14.8	49.8	7.8	< 0.001
75.1-99.9	1.5	16.7	41.7	6.8	< 0.001
100.0	1.3	14.5	38.4	6.2	< 0.001

HDI-M: Municipal Human Development Index; PMAQ-AB: Program for Improvement of Access and Quality of Basic Healthcare; p.p.: percentage points.

Discussion

This study found that the proportion of adequate infrastructure and work process for diagnosis, management, and treatment of syphilis in Brazilian PHC significantly increased from 2012 to 2018. The studied outcomes improved in all regions, population sizes, categories of HDI-M, and FHS coverage of municipalities. Nevertheless, disparities persist, considering that the richest regions and larger municipalities with a higher HDI-M and lower FHS coverage improved the most.

However, less than half of the assessed teams had adequate infrastructure to treat people with syphilis and, when considered individually, none of the items was mentioned by more than 75% of the teams. The literature often reports on the absence and the recent improvement of adequate infrastructure in PHC¹⁵. This reflects the recent federal government initiatives to reduce syphilis in Brazil, applied during the PMAQ-AB period, including: implementation of rapid tests in prenatal care (2012); publication of protocol to investigate vertical transmission (2014); publication of a clinical protocol of therapeutic guidelines to manage STI and of the book of good practices and partnership with the Brazilian Federal Council of Nursing (COFEN) for the application of penicillin in PHC (2015); release of an agenda of strategic actions to reduce congenital syphilis in the country and encourage the Brazilian Ministry of Health to purchase penicillin and the publication of the technical manual for the diagnosis of syphilis (2016); and publication of a flowchart for diagnosis and treatment of syphilis (2018)²⁰.

Table 3

Prevalence of primary healthcare (PHC) teams with an adequate work process for diagnosis and treatment of syphilis according to characteristics of the municipality. PMAQ-AB, Brazil, 2012 (n = 17,202), 2014 (n = 29,778), and 2018 (n = 37,350).

Characteristic	Cycle I %	Cycle II %	Cycle III %	Annual change p.p.	p-value
Brazil	47.3	45.5	75.4	5.7	< 0.001
Region					
North	62.6	44.0	78.9	5.4	< 0.001
Northeast	33.6	39.3	74.7	7.4	< 0.001
Southeast	50.6	47.5	69.4	3.8	< 0.001
South	58.9	56.1	86.3	5.6	< 0.001
Central-West	54.6	46.2	80.2	5.7	< 0.001
Population size					
Up to 10,000	48.9	44.6	78.6	6.1	< 0.001
10,001-30.000	31.2	34.4	70.7	7.3	< 0.001
30,001-100,000	35.7	36.8	71.2	6.8	< 0.001
100,001-300,000	47.9	46.4	75.2	5.5	< 0.001
Over 300,000	73.6	67.8	83.3	2.3	< 0.001
HDI-M					
Low (below 0.554)	37.7	39.6	75.9	8.1	< 0.001
Medium (0.555-0.699)	35.5	37.5	72.9	7.3	< 0.001
High (0.700-0.799)	38.8	44.0	74.3	6.5	< 0.001
Very high (0.800 or over)	71.4	88.7	92.0	2.9	< 0.001
Family health coverage					
Up to 50	62.3	58.8	82.8	4.3	< 0.001
50.1-75.0	39.8	39.1	72.9	6.5	< 0.001
75.1-99.9	39.8	46.1	73.1	5.0	< 0.001
100	36.2	37.9	73.9	7.4	< 0.001

HDI-M: Municipal Human Development Index; PMAQ-AB: Program for Improvement of Access and Quality of Basic Healthcare; p.p.: percentage points.

We emphasize the low availability of PPE in the evaluated services. Providing an adequate number of PPE in primary healthcare centers is a regulatory obligation of the employer, and the absence of equipment puts professionals at higher risk and exposure²¹. Though the literature rarely addresses absence of PPE, basic healthcare professionals, especially nurses, do not use these materials because they are insufficiently provided²². However, this topic has become relevant and widely studied against the backdrop of the COVID-19 pandemic, reinforcing the absence of sufficient supplies and the importance of these equipment in health care services²³.

A proper management of syphilis requires early detection, immediate treatment of the patient and their sexual partners, and the screening and monitoring of these partners, with rapid tests and penicillin at least²⁴. However, although the prevalence of these items has increased between cycles, they are not universally available. These findings corroborate the literature²⁶, which suggests that deficient infrastructure, insufficient human resources, and insecurity in the patient's follow-up with the rapid reactive test and in the application of penicillin are barriers to the comprehensive care of an individual with syphilis in PHC²⁵.

The Brazilian protocol for the control of STIs emphasizes the importance of, in the presence of a positive rapid test, starting treatment immediately even if the individual does not show signs and symptoms of syphilis, taking advantage of their presence at the UBS – especially if they are pregnant women, victims of sexual violence, people with a chance of loss to follow-up (who will not return to the service), people with signs and symptoms of primary or secondary syphilis, and people without a previous diagnosis of syphilis. However, treatment after the first reagent test does not exclude

the need for a second test, clinical and laboratory follow-up, and diagnosis and treatment of sexual partners⁸.

Our results also show the persistence of inequalities in the distribution of adequate UBS infrastructure in Brazil. These results corroborate other studies on this subject both in Brazil and in high-income countries such as the United States and England, emphasizing the greater fragility in caring for the poorest and most vulnerable, which strengthens the stigma and discrimination related to syphilis^{26,27,28,29}.

The annual improvement pattern of adequate work process was similar to that of adequate infrastructure; however, the former reached more services in Cycle III (about 75%) since its initial situation was already more advantageous. The request for tests for HIV and syphilis and the referral of pregnant women at risk showed that these services are universally available in PHC, unlike the application of penicillin, which is still a problem despite the increasing numbers between the assessment cycles. In 2017, the Brazilian Ministry of Health published the agenda of strategic actions to reduce syphilis in the country, focusing on the training of professionals and the application of penicillin in PHC, considering that this medication can reduce the incidence of fetal and neonatal death by 80% and of congenital syphilis by 97%^{30,31}. The increased proportion of penicillin application found in this study thus reveals the effectiveness of this and other public policies on the subject, reinforcing the need to maintain these strategies³¹.

We also found inequities in the adequacy of the work process, similarly to the consulted literature and other results presented³². Inequalities in care for syphilis go beyond context variables and are also directly related to individual socioeconomic and demographic characteristics, mostly affecting the poorest, those of lower schooling levels, and black men with less access to health care services³³. Therefore, guaranteeing equity in PHC service in Brazil can help reduce the inequalities in the country, which have greatly increased in the last two years with the elimination and reduction of public policies for income distribution, with easier access to higher education and the acquisition of housing, and with the disqualification of the Brazilian National Primary Health Care Policy (PNAB) and the cutting of funding for health, especially for PHC^{34,35}.

Although the infrastructure and the work process of health care teams for diagnosis, management, and treatment of syphilis in PHC improved, syphilis rates in Brazil showed a growing trend from 2012 to 2018, mainly in the population aged from 20 to 29 years, reaching 75.8 cases per 100,000 inhabitants in 2018³⁶. Studies suggest that syphilis rates increased because of improved access to health services, diagnosis, and treatment, as well as changes in the registration of cases^{36,37}. Nonetheless, the importance of tracking and monitoring cases and contacts to reduce the transmission of the bacterium is still unreported. Health surveillance is essential for the notification and epidemiological investigation of cases, and together with the PHC team, especially community health agent (ACS), it can develop strategies to break the transmission chain³⁸. Actions for infected individuals and their sexual partners which seek to reduce infection and reinfection and provide early diagnosis, monitoring, completeness of drug treatment, and guidance on the subject are essential for the integral care of these individuals, possibly reducing the high number of cases.

However, this solution does not seem feasible in the current political scenario in Brazil considering: the lack of funds for the Brazilian Unified National Health System (SUS) (*Constitutional Amendment n. 95*, changes in *Previne Brasil* funding); changes in the PNAB; shortage of staff in the FHS; less ACS; focus in episodic acute complaints, disregarding work in the field and the responsibility with defined populations; and difficulty in coordinating teamwork^{39,40,41}.

This study strengths include its scope, addressing three moments in time based on national PHC data, and the relevance of its subject, which still has limited literature. Regarding limitations, the relationship of adequate infrastructure and work process with the care received by users with syphilis in PHC could not be analyzed since data on these individuals is unavailable in the PMAQ-basic health-care. Moreover, Cycle I could have had selection bias considering that, as the first cycle, only the best teams in the municipalities might have joined it.

Contributors

M. O. Saes and S. M. S. Duro contributed to the writing, critical review and data analysis. C. S. Gonçalves and E. Tomasi contributed to the critical review of the manuscript. L. A. Facchini contributed to the writing and critical review of the manuscript. All authors approved the final version of the text.

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Additional informations

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Resumo

O estudo teve como objetivo analisar a presença de infraestrutura e processo de trabalho adequados na atenção primária para o diagnóstico, manejo e tratamento da sífilis no Brasil nos anos de 2012, 2014 e 2018, com um desenho transversal, de abrangência nacional, com dados dos três ciclos do Programa Nacional de Melhoria do Acesso e da Qualidade da Atenção Básica (PMAQ-AB) em 2012 (Ciclo I), 2014 (Ciclo II) e 2018 (Ciclo III). Foram avaliados dois desfechos: infraestrutura e processo de trabalho adequados. As variáveis independentes foram macrorregião, tamanho do município, Índice de Desenvolvimento Humano Municipal (IDH-M) e cobertura da Estratégia Saúde da Família (ESF). Foi utilizada regressão de mínimos quadrados ponderada pela variância para estimar as mudanças anuais em pontos percentuais. No Ciclo I, foram avaliadas 13.842 unidades básicas de saúde (UBS) e 17.202 equipes de saúde, no Ciclo II, 24.055 UBS e 29.778 equipes e no Ciclo III, 28.939 UBS e 37.350 equipes. No Ciclo I, 1,4% das UBS apresentavam infraestrutura adequada, aumentando para 17,5% no Ciclo II e 42,7% no Ciclo III. Houve também um aumento no processo de trabalho adequado nos três ciclos, passando de 47,3% no ciclo I para 45,5% no ciclo II e 75,4% no Ciclo III. Entretanto, foram observadas inequidades, com melhoras mais expressivas nas regiões mais ricas, municípios com IDH-M mais alto, maiores e com menor cobertura da ESF. A baixa prevalência de infraestrutura e processo de trabalho adequados para o atendimento dos pacientes com sífilis no Brasil refletem uma insuficiência importante no sistema de saúde brasileiro.

Sífilis; Atenção Primária à Saúde; Avaliação de Programas e Projetos de Saúde; Fatores Socioeconômicos

Resumen

El objetivo de este estudio fue analizar la presencia de infraestructura adecuada, así como de la existencia de procesos laborales dentro de la atención primaria para la diagnosis, gestión y tratamiento de sífilis en Brasil durante los años de 2012, 2014 y 2018. Se trata de un estudio transversal, nacional, con datos de los tres ciclos del Programa Nacional de Mejoría de Acceso y Calidad de la Atención Básica (PMAQ-AB) en 2012 (Ciclo I), 2014 (Ciclo II) y 2018 (Ciclo III). Se evaluaron dos resultados: infraestructura adecuada y proceso laboral. Las variables independientes fueron: macrorregión, tamaño del municipio, Índice de Desarrollo Humano Municipal (HDI-M), así como la cobertura de la Estrategia Salud de la Familia (ESF). Se utilizó la regresión de mínimos cuadrados ponderados por varianza para estimar los cambios anuales por puntos porcentuales. En el Ciclo I, se evaluaron 13.842 servicios de salud básicos (UBS) y 17.202 equipos profesionales de salud, en el Ciclo II 24.055 UBS y 29.778 equipos y en el Ciclo III 28.939 UBS y 37.350 equipos. En el Ciclo I un 1.4% de las UBS tenían una infraestructura adecuada, incrementándose hasta un 17.5% en el Ciclo II y a un 42.7% en el Ciclo III. Había también un incremento en el proceso laboral adecuado en los tres Ciclos, yendo de un 47.3% en el Ciclo I al 45.5% en el Ciclo II y un 75.4% en el Ciclo III. No obstante, se observaron inequidades, con mejoras más expresivas en regiones más ricas, municipios con un HDI-M mayor y con una cobertura ESF más baja. La prevalencia baja de una infraestructura adecuada y el proceso laboral para el cuidado de pacientes con sífilis en Brasil refleja una importante debilidad en el sistema de salud brasileño.

Sífilis; Atención Primaria de Salud; Evaluación de Programas y Proyectos de Salud; Factores Socioeconómicos

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