

The importance of serological tests in prenatal care provided by the Unified Health System. Health (SUS)

The importance of serology in prenatal care, carried out by the Unified Health System (SUS)
The importance of serology in prenatal care provided by the Unified Health System (SUS)

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SUMMARY

INTRODUCTION: Prenatal care is essential for promoting maternal-fetal health, with serological tests being fundamental for the early diagnosis of gestational infections and the prevention of complications. **OBJECTIVE:** To analyze the importance of serological tests within the Brazilian Unified Health System (SUS) during the prenatal period. **METHODOLOGY:** This is a narrative literature review, with searches conducted in scientific databases using descriptors related to prenatal care, serological tests, and infection diagnosis, including studies published between 2020 and 2025, in Portuguese and English. **RESULTS:** The studies showed that serological tests play a fundamental role in the early detection of infections, contributing to the reduction of vertical transmission and the improvement of gestational outcomes, although limitations in prenatal care still exist, such as failures in performing tests, difficulties in accessing health services, and low adherence of pregnant women to prenatal care. **DISCUSSION:** The findings reinforce the relevance of serological testing as an essential strategy in prenatal care, highlighting that its effectiveness is directly related to the quality of care and pregnant women's access to health services.

CONCLUSION: Serological tests are indispensable in prenatal care, being fundamental for the prevention of complications and for the promotion of maternal and neonatal health, which highlights the need to strengthen actions within the Unified Health System.

Descriptors: Prenatal care; Serological tests; Infections in pregnancy; Laboratory diagnosis; Primary health care.

INTRODUCTION

The gestational period is a phase that requires continuous attention and proper monitoring, since changes in maternal health can directly impact fetal development and the outcome of the pregnancy. In this context, prenatal care is a fundamental strategy for... promoting maternal and fetal health, as it allows monitoring the progress of the pregnancy and identifying Early detection of potential complications and ensuring timely interventions that contribute to a safe and healthy pregnancy.

In Brazil, prenatal care is offered free of charge by the Unified Health System (SUS). (SUS), which seeks to ensure universal and equal access to health services. This Follow-up involves regular check-ups, educational guidance, and laboratory tests that...

These tests help in assessing the health conditions of the pregnant woman and the baby. Among these tests, the following stand out: if serological tests, which play an essential role in identifying infections capable of compromise fetal development and newborn health (Brazil, 2019).

Serological tests are laboratory tests that detect the presence of antibodies or antigens.

Blood tests, allowing the identification of current or previous infections. During prenatal care, these tests are... fundamental for tracking infectious diseases that can be transmitted from mother to child fetal transmission, a process known as vertical transmission. Among the main infections investigated are Syphilis, HIV, viral hepatitis, toxoplasmosis, rubella, and cytomegalovirus, all associated with important clinical repercussions when not diagnosed and treated properly (Ministry of Health, 2022).

Early detection of these infections allows for the adoption of therapeutic measures and Preventive measures capable of significantly reducing the risks of maternal-fetal complications. Studies They demonstrate that timely diagnosis and treatment can significantly reduce the occurrence of spontaneous abortion, premature birth, congenital malformations, neonatal infections and deaths perinatal. Therefore, serological screening becomes an essential tool for... prevention of complications and promotion of the health of pregnant women and newborns (Pereira et al., 2018).

With the goal of standardizing and improving the quality of care provided to pregnant women, the Ministry The Ministry of Health has established guidelines for conducting laboratory tests during prenatal care. These guidelines This includes performing serological tests at different times during pregnancy, allowing not only the initial diagnosis, but also monitoring and confirmation of possible infections over time of the gestational period. Therefore, prenatal care is an important strategy for health surveillance and disease prevention (Camargos et al., 2021).

Despite the progress made in recent decades, challenges related to... still persist. Effectiveness of prenatal care in the country. Problems such as regional inequalities, limitations structural problems in health services, shortages of laboratory supplies, and difficulties in accessing them. Services may compromise the proper performance of recommended tests. Furthermore, factors socioeconomic factors and the low adherence of some pregnant women to prenatal care also contribute. They can interfere with the early detection of gestational infections (Lessa et al., 2022).

In this context, it becomes essential to understand the relevance of serological tests in prenatal care offered by the SUS (Brazilian Public Health System), considering its impact on disease prevention and in reducing maternal-fetal complications. Performing these tests contributes not only to early diagnosis of infections, but also for planning therapeutic approaches and for Promoting safer and more effective care during pregnancy.

Given this, the present study aimed to understand the importance of serological tests performed during prenatal care in the Brazilian Unified Health System (SUS), highlighting their role in prevention in the early diagnosis of gestational infections and in reducing risks to maternal and fetal health.

METHODOLOGY

This work consisted of a narrative literature review, the objective of which was to gather and To discuss scientific information regarding the importance of serological tests in prenatal care provided by the Brazilian Public Health System (SUS).

The research was conducted using the SciELO, PubMed, and Google Scholar databases, in addition to... Consultation of official documents from the Ministry of Health and the World Health Organization. Health (WHO). The literature review was conducted between September 2025 and June 2026. This period saw the selection of scientific and institutional publications related to the topic. In the search for studies, the following descriptors were used: "prenatal serologies SUS", "infections "gestational" and "laboratory diagnosis in pregnancy".

To ensure greater scientific standardization, descriptors were adopted in accordance with the DeCS (Descriptors in Health Sciences), including the terms: *Serology, Prenatal Care, Unified Health System, Pregnancy Infections, and Laboratory Diagnosis*. The search strategies were refined through the use of Boolean operators, applying combinations such as ("Serology" AND "Prenatal Care") AND ("Unified Health System" OR "Pregnancy Infections" OR "Laboratory Diagnosis"), with the goal of increasing the accuracy and relevance of the results.

The inclusion criteria covered articles published in the last 10 years, in Portuguese. Portuguese, which addressed the topic of serological tests performed during prenatal care and their implications for the Maternal and fetal health. Government documents and previous publications were also included. because they are official sources of great scientific relevance, used as a basis for the Understanding the guidelines and protocols established by the SUS (Brazilian Public Health System).

On the other hand, studies that addressed pathologies in isolation or that They did not present a direct relationship with the prenatal context. After selecting and reading the materials, The information was organized, analyzed, and discussed descriptively, based on the literature. scientific and in accordance with the official recommendations of the Ministry of Health.

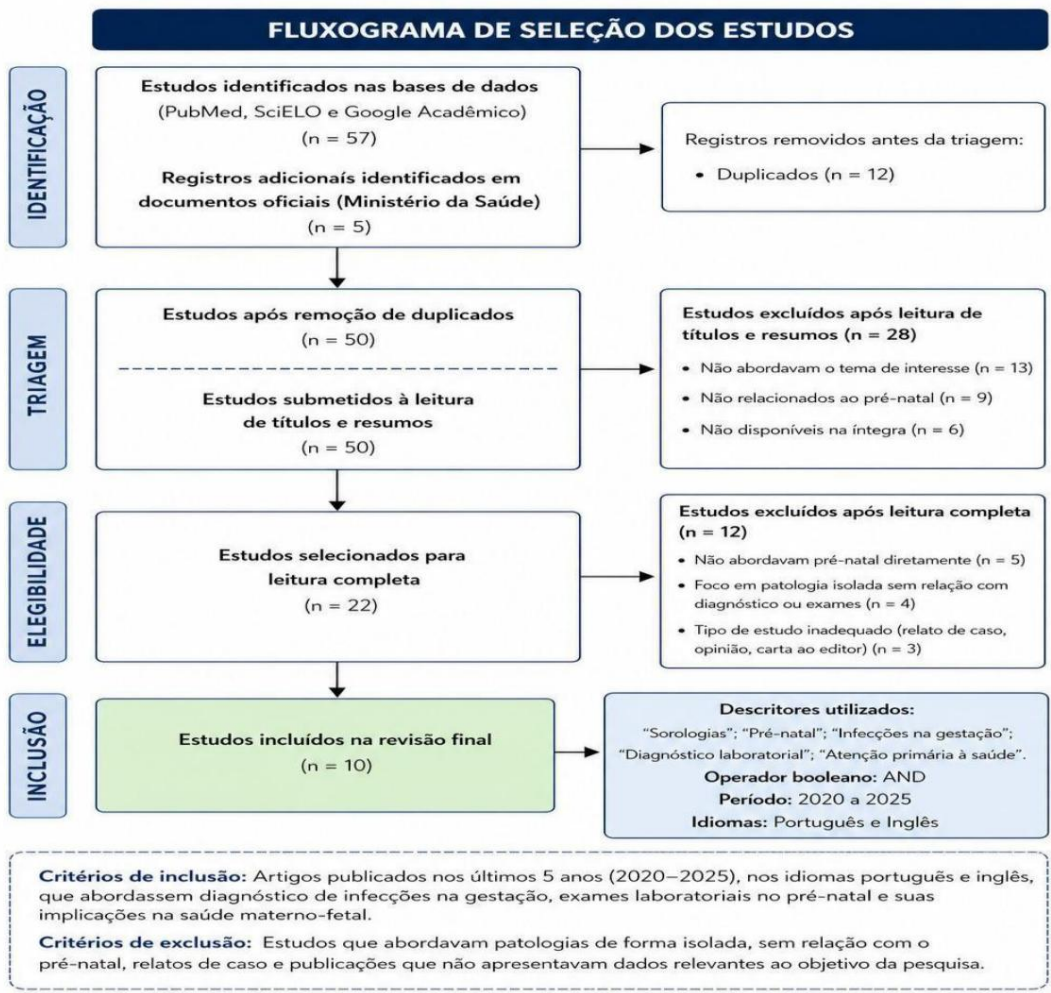
The analysis of the publications made it possible to understand the relevance of serological tests in prenatal care, highlighting its contribution to the prevention of infections and to promoting maternal and fetal health, in addition to highlighting the main challenges faced in the public healthcare system. health.

The study selection process was carried out in a systematic way, taking into account the identification, screening, eligibility, and inclusion stages, according to the previously established criteria. established. Initially, studies were identified in the selected databases and, subsequently, they were submitted for reading of titles and abstracts. Then, the eligible articles were...

analyzed in full, with application of inclusion and exclusion criteria, resulting in the final selection of the studies that comprised the sample for this review.

Figure 1 below presents the steps in the study selection process.

Figure 1 - Study selection process



Fonte: Elaborado pela autora, 2025.

RESULTS

Ten studies were selected for this review, according to the criteria of inclusion previously established. The articles analyzed addressed aspects of monitoring prenatal care, focusing on the diagnosis of gestational infections and the performance of laboratory tests and the importance of serological tests.

In general, studies have shown that the proper performance of laboratory tests during prenatal care, it contributes significantly to the early diagnosis of infections, enabling timely interventions and reducing the risk of maternal-fetal complications and vertical transmission.

Furthermore, some studies have highlighted limitations in prenatal care, such as failures in... conducting tests and difficulties accessing health services are factors that can compromise Proper prenatal care and early detection of complications.

Table 1 presents a summary of the selected studies, including authors, objectives, and types of... Study and main results.

Table 1 - Summary of selected studies

AUTHOR/YEAR	OBJECTIVE	MAIN TYPES OF STUDY	RESULTS
Desjardins et al., 2025	Presenting guidelines on pregnancy	Clinical review/guide: Early	diagnosis of syphilis in reduces maternal-fetal complications
Castilho et al., 2024	Assessing the association between syphilis and HIV in Brazil	Population-based study	Infections increase the risk of adverse outcomes.
Valamparampil et al., 2020	Assessing the feasibility of a pilot study for prenatal hepatitis C screening.		Contact tracing helps prevent transmission.
Adeleye et al., 2020	Analyze the communicable disease screening program.	Descriptive study: Tracking	improves Diagnosing infections
Damiani et al., 2021	Evaluating immunodiagnosics in prenatal care	Descriptive/analytical study	Serological tests are essential for early diagnosis.
National Survey of Health, 2021	Evaluate the achievement of prenatal exams in Brazil	Cross-sectional study: There	is inequality in access to the exams laboratory
Pedraza et al., 2024	Assessing the quality of prenatal care	Cross-sectional study: Failure	were identified in the execution of exams

Ferreira et al., 2022	Assessing adherence to prenatal care in pregnant women	Observational study	Low participation It compromises the performance of examinations.
Villar et al., 2025	Analyzing late HIV diagnosis in pregnancy	Observational study	Late diagnosis highlights flaws in prenatal care.
Sousa et al., 2023	To assess the influence of treatment on congenital toxoplasmosis.	Analytical study: The treatment	reduces the vertical transmission

DISCUSSION

Analysis of the selected studies showed that serological tests play a role fundamental in prenatal care, especially in the early diagnosis of infections. gestational health and the prevention of maternal-fetal complications. In this context, proper implementation These tests are essential to ensure a safer pregnancy and reduce risks for both mother and child. as well as for the newborn.

According to Damiani et al. (2021), serological and immunochromatographic tests are Important tools in prenatal care, as they allow for the identification of infections early in pregnancy. enabling faster and more effective interventions. This early identification is essential for to reduce vertical transmission, especially in diseases such as syphilis and HIV, which have high rates . impact on maternal and child health when not diagnosed and treated appropriately.

In this regard, Desjardins et al. (2025) highlight that early diagnosis of syphilis in Pregnancy is directly associated with a reduction in complications, such as miscarriage. prematurity and congenital infections. Similarly, Castilho et al. (2024) show that the The presence of syphilis associated with HIV significantly increases the risk of adverse outcomes. reinforcing the need for systematic serological testing during prenatal care. These findings evidence shows that the absence or delay in diagnosis can directly compromise the progression of the disease. gestation.

In addition to the most frequently discussed infections, other studies also demonstrate that Importance of screening for different infectious agents. Valampampil et al. (2020) Studies show that screening for hepatitis C during prenatal care is feasible and contributes to the prevention of mother-to-child transmission, broadening the understanding that serological tests should cover a

A diverse set of infections. Therefore, laboratory diagnosis becomes a tool indispensable for identifying various health problems that can affect pregnancy.

Despite the recognized importance of serological tests, the studies analyzed also point to... Challenges remain in its effective implementation. Data from the National Health Survey (2021) indicate that there are still... There are inequalities in access to laboratory tests in Brazil, which shows that not all... Pregnant women undergo the recommended tests during prenatal care. Pedraza et al. (2024) also They identified shortcomings in prenatal care, such as the failure to perform essential tests, which can compromising the early diagnosis of infections and, consequently, the prevention of complications.

Given this scenario, factors such as pregnant women's adherence to prenatal care and access to services are important. Health conditions directly influence the performance of serological tests, and may compromise the outcome. Early diagnosis of infections occurs when these tests are not performed properly. The low Adherence to prenatal care, associated with structural difficulties in health services, This contributes to gaps in care and limits the effectiveness of prevention strategies.

Furthermore, pregnant women's adherence to prenatal care directly influences the success of the procedures. serological tests. Studies that have evaluated this aspect show that low frequency of consultations is... associated with less frequent laboratory tests, which can lead to late diagnosis of Infections. In some cases, diseases like HIV are only identified at the time of delivery . which highlights shortcomings in monitoring and conducting examinations during pregnancy.

Another relevant aspect observed in the studies refers to the impact of serological tests on health. public. The proper performance of these prenatal exams benefits not only the pregnant woman, but It also contributes to reducing vertical transmission and controlling infectious diseases in population. In this sense, early identification of infections enables interventions that They interrupt the chain of transmission, reducing the incidence of illnesses and improving indicators. maternal and child health.

In the context of the Unified Health System (SUS), serological tests play a strategic role because... These actions are part of primary care focused on health promotion and disease prevention. However, for these tests to be effective, it is necessary to ensure not only their availability, but also pregnant women's access to services, the quality of care provided, and continuity. monitoring throughout the pregnancy.

In this regard, according to the Ministry of Health, the performance of serological tests During prenatal care, it is crucial for the early diagnosis of infections and for the prevention of... Vertical transmission. The protocol recommends performing these tests at different times during the process. pregnancy, with the aim of ensuring adequate monitoring and reducing maternal-fetal risks. Thus, it can be seen that national recommendations reinforce the importance of serological tests.

as an essential part of prenatal care within the Unified Health System.

Thus, the findings of this review reinforce that serological tests are essential in prenatal care, both for the early diagnosis of infections and for the prevention of complications and promotion of maternal and fetal health. At the same time, they highlight the need for improvements in prenatal care. Christmas, especially with regard to expanding access, encouraging pregnant women to enroll, and guaranteeing... Proper completion of the recommended tests.

FINAL CONSIDERATIONS

The analysis of the studies included in this review made it possible to understand that serological tests are an essential component of prenatal care, playing a role crucial in the early diagnosis of gestational infections and in the prevention of maternal complications, fetal conditions. Timely identification of these conditions allows for the adoption of therapeutic measures, adequate, contributing significantly to the reduction of vertical transmission and to the improvement of perinatal outcomes.

It has been observed, however, that the effectiveness of these strategies still faces limitations in prenatal care, such as failures in conducting examinations, difficulties in accessing services, health and low adherence of pregnant women to prenatal care. These factors show that, although the serological tests are fundamental tools, their effectiveness is directly conditioned by the organization of the services and the quality of care provided.

In this context, the importance of the Unified Health System (SUS) in guaranteeing access stands out. universal and in the implementation of the guidelines of the Ministry of Health, which guide the performance of Systematic laboratory testing during pregnancy. Strengthening these actions is essential to ensure effective prenatal care, capable of promoting detection of complications and proper management of cases.

Therefore, it can be concluded that serological tests, in addition to their diagnostic function, represent an indispensable strategy for promoting health and preventing disease in the context of prenatal care, being fundamental for the protection of maternal and neonatal health and for improving quality

of assistance within the scope of the SUS (Brazilian Public Health System).

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