

**NOTIFICATION OF TOXOPLASMOSIS AND HEALTH EDUCATION FOR
PREGNANT WOMEN TREATED AT FAMILY HEALTH UNITS IN SERTÃO DA
PARAÍBA**

**NOTIFICAÇÃO DE TOXOPLASMOSE E EDUCAÇÃO EM SAÚDE PARA
GESTANTES ATENDIDAS EM UNIDADES DE SAÚDE DA FAMÍLIA NO
SERTÃO DA PARAÍBA**

**NOTIFICACIÓN DE TOXOPLASMOSIS Y EDUCACIÓN EN SALUD PARA
GESTANTES ATENDIDAS EN UNIDADES DE SALUD DE LA FAMILIA EN EL
SERTÓN DE PARAÍBA**

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ABSTRACT

Toxoplasmosis is a highly relevant zoonosis in Public Health, mainly due to the risks it poses to vulnerable groups, such as pregnant women. Pregnant women stand out among the risk groups for *Toxoplasma gondii* infections, so it is extremely important to perform a serological test at the first prenatal consultation in order to assess the risk of congenital transmission. The objective of this study was to identify notifications of gestational toxoplasmosis in Family Health Units (USFs) in the backlands of Paraíba and to implement Health Education strategies about the infection for this group of women and the health team. Data from the pregnant women's dock records, stored in the USF files, were analyzed between 2020 and September 2024. In addition, Health Education was carried out through dialogued exposure using informative pamphlets on the subject in the USFs in the waiting room. One IgM-reactive case was identified in one of the USFs. During prenatal consultations, 20 pregnant women and eight health professionals were trained at specific times. Monitoring of toxoplasmosis in pregnant women should be recommended from the beginning of pregnancy to avoid gestational problems caused by toxoplasmosis. Pregnant women should be advised on dietary care and possible sources of infection of this disease, as well as prevention and control measures. Given that this disease can cause severe consequences for the baby, the presence of a veterinarian is important in the multidisciplinary team to provide guidance on this zoonosis during pregnancy, as well as its prevention measures.

Keywords: Public Health. *Toxoplasma gondii*. Zoonosis.

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RESUMO

A toxoplasmose é uma zoonose de alta relevância em Saúde Pública, principalmente devido aos riscos que ela representa para os grupos vulneráveis, como as gestantes. Entre os grupos de risco para infecções por *Toxoplasma gondii*, as gestantes se destacam, sendo assim é de extrema importância a realização do exame sorológico na primeira consulta pré-natal com o intuito de avaliar o risco de transmissão congênita. Objetivou-se identificar as notificações de toxoplasmose gestacional em Unidades de Saúde da Família (USFs) no sertão da Paraíba e realizar estratégias de Educação em Saúde sobre a infecção para esse grupo de mulheres e equipe de saúde. Foi realizada análise de dados presentes nos prontuários das gestantes, armazenados nos arquivos das USFs, entre o período de 2020 a setembro de 2024. Além disso, foi realizado Educação em Saúde por meio de exposição dialogada utilizando panfletos informativos sobre o tema nas USFs em sala de espera. Foi identificado um caso IgM reagente em uma das USFs. Ao longo das consultas de pré-natal em momentos pontuais foram capacitadas 20 gestantes e oito profissionais de saúde. O monitoramento da toxoplasmose em gestantes deve ser preconizado desde o início da gestação para evitar problemas gestacionais causados por toxoplasmose. As gestantes devem ser orientadas sobre os cuidados com alimentação e possíveis fontes de infecção dessa enfermidade, bem como medidas de prevenção e controle, tendo em vista que essa enfermidade pode desencadear sequelas severas para o bebê, a presença do Médico-Veterinário se faz importante na equipe multiprofissional para proporcionar orientação sobre essa zoonose no período gestacional bem como, suas medidas de prevenção.

Palavras-chave: Saúde Pública. *Toxoplasma gondii*. Zoonose.

RESUMEN

La toxoplasmosis es una zoonosis de gran relevancia en Salud Pública, principalmente debido a los riesgos que representa para los grupos vulnerables, como las gestantes. Entre los grupos de riesgo para infecciones por *Toxoplasma gondii*, las gestantes se destacan; por ello, es de extrema importancia la realización del examen serológico en la primera consulta prenatal con el objetivo de evaluar el riesgo de transmisión congénita. Se tuvo como objetivo identificar las notificaciones de toxoplasmosis gestacional en Unidades de Salud de la Familia (USF) del sertón de Paraíba y desarrollar estrategias de Educación en Salud sobre la infección para este grupo de mujeres y el equipo de salud. Se realizó un análisis de los datos presentes en los prontuarios de las gestantes, archivados en las USF, entre el período de 2020 a septiembre de 2024. Además, se llevaron a cabo acciones de Educación en Salud mediante exposiciones dialogadas, utilizando folletos informativos sobre el tema en las salas de espera de las USF. Se identificó un caso con IgM reactivo en una de las USF. A lo largo de las consultas prenatales, en momentos específicos, fueron capacitadas 20 gestantes y ocho profesionales de la salud. El monitoreo de la toxoplasmosis en gestantes debe ser una práctica prioritaria desde el inicio del embarazo, con el fin de evitar complicaciones gestacionales causadas por esta infección. Las gestantes deben ser orientadas acerca de los cuidados con la alimentación y las posibles fuentes de infección, así como sobre las medidas de prevención y control, considerando que esta enfermedad puede causar secuelas graves en el bebé. La presencia del Médico Veterinario es fundamental dentro del equipo multidisciplinario para brindar orientación sobre esta zoonosis durante el período gestacional, así como sobre sus medidas preventivas.

Palabras clave: Salud Pública. *Toxoplasma gondii*. Zoonosis.

1 INTRODUCTION

Toxoplasmosis is a zoonosis of great importance in Brazil and in the world. Caused by the protozoan *Toxoplasma gondii*, it can affect several animals, including mammals and birds, as well as humans (Alba et al., 2022). It has domestic and wild cats as definitive hosts of this protozoan. Humans are capable of becoming infected not only through direct contact with feces of infected felids, containing sporulated oocysts in the environment, but also through contaminated food eaten raw or undercooked as meats, as well as vegetables, eggs, unpasteurized goat's milk, contamination by transplantation, and blood transfusion (Santos, 2022).

There is a huge concern about the fact that pregnant women become infected and transmit toxoplasmosis to the baby, since the infection can occur transplacentally, the parasite infects the fetus and it develops lesions such as brain calcifications, hydrocephalus, retinochoroiditis and seizure disorders. At birth, children may not show signs and/or symptoms of the infection, however, in the future they may present mental, psychomotor and other alterations, and this is caused by latent cysts that can be activated because of systemic alterations (De Ávila, 2009).

The diagnosis is strictly laboratory, including the serological test, which should be done at the first prenatal visit in order to assess the risk of congenital transmission, in cases of chronic infection the risk of transmission is unlikely. Considering that it is a mandatory prenatal exam and toxoplasmosis is a notifiable disease (Barbosa, 2020).

The team of professionals must have expanded knowledge about this zoonosis, since their level of information is crucial to guide pregnant women on prevention measures. The presence of the veterinarian is important in the multiprofessional team to provide guidance based on scientific knowledge and dissemination of information to the population regarding the basic principles of health, especially in the current panorama of One Health (Gonçalves et al., 2022). In addition, the veterinarian can also participate in interconsultations by providing guidance on zoonoses relevant to the gestational period, thus enabling knowledge of these diseases as well as their prevention measures (Lins et al., 2020).

Therefore, the objective of this study was to identify notifications of gestational toxoplasmosis in Family Health Units (FHUs) in the hinterland of Paraíba and to carry out Health Education strategies on the infection for this group of women and the health team.

2 MATERIAL AND METHODS

Qualitative, quantitative and documentary research was carried out in the municipality of Patos, located in the interior of the state of Paraíba in the microregion of Patos and mesoregion of the state of Paraíba, occupying a territorial area of 472.892 km² and in 2022 its estimated population is 103.165 inhabitants with latitude of -7.02556, and longitude of -37.2779 7° 1' 32" South, 37° 16' 40" West (IBGE, 2022).

Submitted to the Research Ethics Committee (CEP) of the University Center of Patos (UNIFIP), through Plataforma Brasil, under approval number 6.799.515.

The sampling was non-probabilistic by convenience (Reis, 2003), with the occurrence of Toxoplasmosis (reactive IgM) in the first, second and third trimester of pregnancy and notification of zoonosis as variables.

For data collection, the medical records of two (100%) USFs, located in the municipality of Patos – PB, were evaluated in order to evaluate the occurrence of gestational toxoplasmosis from the year 2020 to September 2024, as well as whether the cases were notified according to resolution No. CIB/2018.

Serological records and notification of toxoplasmosis in the medical records of the USFs were consulted from the interview with the nursing professional of the USFs.

A single researcher carried out two waiting rooms on toxoplasmosis for pregnant women on the day of prenatal care, using a pamphlet on toxoplasmosis as an informative means, followed by a dialogued presentation on the subject with pregnant women and FHU employees.

For data analysis, they were tabulated in Microsoft Office and Excel® and submitted to simple descriptive statistics, using frequencies for data tabulation.

3 RESULTS AND DISCUSSION

According to Barbosa (2020), toxoplasmosis is a notifiable disease of extreme importance in prenatal care and the investigation should be carried out at the first prenatal visit in order to assess the risk of congenital transmission from mother to baby. In the USFs evaluated, prenatal consultations are carried out as soon as the pregnant woman is admitted to the service, being monitored by a multidisciplinary health team in both Units. When evaluating the data from the medical records of pregnant women from USF 01 and USF 02, it was observed that one user from USF 01 presented positive serology (reactive IgM) for toxoplasmosis, which differed from the data collected at USF 02, where no patient was

seroreactive, demonstrating that active surveillance of toxoplasmosis has been carried out in the follow-up of pregnant women in the territories and that the care provided to these users assisted in these Units is in accordance with what is recommended by the Ministry of Health. It is important to consider that the research took place during the COVID-19 pandemic and that the prenatal care in the early years of the pandemic may not have followed the normal flow of a non-pandemic period.

This guided and monitored prenatal care is carried out in the two USFs following the protocol established for gestational follow-up. Adequate prenatal care with disease detection and early intervention in risk situations is among the health indicators related to mother and baby that has the potential to reduce the main causes of maternal and neonatal mortality. Prenatal care performed properly by the pregnant woman and monitored by a health team reduces the risk of severe sequelae in cases of congenital toxoplasmosis, and can be avoided and properly treated (Amendoeira; Coura, 2010).

During prenatal care, serological tests for toxoplasmosis (IgM and IgG) are advised, which are requested at the first consultation during the first trimester of pregnancy, to identify infected pregnant women early in order to reduce vertical transmission and fetal infection, in addition to identifying susceptible pregnant women for primary prevention of infection (Brasil, 2022). In FHU 01 and 02, serological tests are performed at the first prenatal consultation of the pregnant woman, which is low risk and is done by a nursing professional, physician and multiprofessional team and in cases of positive serology, the pregnant woman enters the follow-up protocol for high-risk pregnancy, being monitored by a multiprofessional team with the objective of being more attentive to the condition of the pregnant woman and intervening in case of having any prognosis adverse.

In a retrospective study with data collection on gestational toxoplasmosis from 2019 to 2023, through the Notifiable Diseases Information System (SINAN - NET), Department of Information of the Unified Health System (DATASUS) and Brazilian Institute of Geography and Statistics (IBGE), Jesus et al; (2024) identified 47,924 notified cases of gestational toxoplasmosis, and it is possible to highlight the southeast and northeast regions with the highest expressiveness of notified cases and Santos, Ribeiro and Lima (2023) carried out a study in the municipality of Maceió through SINAN – NET data and identified 153 cases of gestational toxoplasmosis between the years 2019 and 2022 in the capital of Alagoas. In this specific study carried out in two FHUs in a city in the hinterland of Paraíba, gestational toxoplasmosis was described in only one user of these Units over a period of four years,

demonstrating that in this period of time gestational toxoplasmosis did not constitute an important disease of pregnancy in this northeastern municipality.

It is important to emphasize that the agent should be addressed in prenatal care from the beginning of pregnancy, since it is a disease of importance for the mother and the baby (Mesquita, 2023) and should last after the birth of the child. This importance is perceived when observing what is recommended by Law 14.154/2021 (Brasil, 2021), which modified the Statute of the Child and Adolescent, establishing a minimum list of diseases that must be screened in the newborn by the heel prick test made available by the Unified Health System (SUS) within the scope of the National Neonatal Screening Program (PNTN), in which the identification of congenital toxoplasmosis is determined.

In this research, it was possible to provide pregnant women from the two USFs with a moment of Health Education to address the care of pregnant women in the prevention of toxoplasmosis. InFHU 01, ten pregnant women were present, in addition to two nursing professionals, a pharmacist, a psychologist, a physical education professional and a physiotherapist, three companions of the pregnant women and a receptionist were also present (Figure 01). In order for this commitment of the pregnant woman in the postpartum period, it is of paramount importance to follow up on the pregnancy based on an interprofessional approach during prenatal care to ensure comprehensive care and access to health from multiprofessional teams to detect the problems, as well as to carry out moments of Health Education with pregnant women in interconsultations and in waiting rooms (Lins et al., 2020).

When pregnant women are informed about the risks and care they should have in prenatal care, gestational problems that can generate greater risk for the mother and child are minimized by sensitizing the pregnant woman in periodic consultations with the appropriate information, and professional guidance is extremely important, considering that in the case of toxoplasmosis, the health professional should instruct pregnant women on ways to prevent this zoonosis, carrying out Health Education to promote knowledge and thus avoid infection by *T. gondii* (Sousa, 2014). During the waiting room, it was possible to present a pamphlet entitled: Toxoplasmosis: the fault is not the cat's (Figure 01) in which it provided information about the importance of pregnant women having prenatal care, as well as addressing means of prevention of zoonotic parasitosis.

It is important to point out that the most effective way to prevent this zoonosis is through prevention, avoiding raw and/or undercooked meats, as well as poorly sanitized vegetables

(Santos et al., 2024). Health Education is a strategy that aims to inform and reduce the risks of toxoplasmosis infection in pregnant women based on knowledge based on scientific evidence (Serafim et al., 2023). In addition to the information provided in the pamphlet, the researcher addressed zoonosis with accessible technical-scientific language that provided science-based knowledge for pregnant women and participants (Figure 01). During the interaction, it was possible to clarify, when a pregnant woman from USF 01 questioned whether the dog did not transmit toxoplasmosis, that this infection is caused by a protozoan, *Toxoplasma gondii*, which has domestic and wild felids as its definitive host, in this way the dog participates as a susceptible and/or intermediate host in the biological cycle of toxoplasmosis. Of the ten pregnant women who were present, only one reported having a cat as a pet.

Health Education in the waiting room at FHU 02 was carried out in three moments during prenatal care with the group of pregnant women at the FHU. In the first moment, three pregnant women were present, in the second moment five pregnant women and in the third moment with two pregnant women, totaling ten pregnant women in USF 02. A nursing professional and a psychologist were also present at the time of Health Education. It was possible to address toxoplasmosis and its means of prevention, as well as the importance of prenatal care from the beginning to the end of pregnancy (Figure 01). Of the ten pregnant women who participated in the waiting room, four reported having a cat as pets. Another important aspect observed during the waiting room was that two pregnant women stated that they had researched on the internet about toxoplasmosis and its means of infection, during the interaction it was possible to clarify doubts about the main forms of contamination and sources of infection, as well as their means of prevention.

At the end of the action, it was possible to reach an audience of 20 pregnant women in the two USFs, in addition to the participation of 11 people, including professionals from the multiprofessional team, as well as companions and employees of the USFs, totaling a total audience of 31 participants.

It was of paramount importance to hold the waiting rooms, considering that toxoplasmosis is a zoonosis of great relevance to public health, specifically for pregnant women and their babies, so it was possible to provide information based on scientific evidence to the participating public, promoting the dissemination of information about this zoonosis (Figure 02).

Figure 1

Realization of the waiting room at USF 01 (A); Information pamphlet on Toxoplasmosis (B); Interaction with pregnant women at USF 01 (C); Realization of the waiting room at USF 02 (D)



Source: Personal archive, 2024.

Figure 2

Pregnant women and the multiprofessional team of the FHU 01 (A) Pregnant women and the multiprofessional team of the FHU 02 (B)



Source: Personal archive 2024.

4 FINAL CONSIDERATIONS

The occurrence of notification of toxoplasmosis reinforces the importance of efficient prenatal care with trained multidisciplinary teams to inform and reduce the risk of infection of pregnant women by toxoplasmosis.

The monitoring of toxoplasmosis, as well as the use of Health Education for pregnant women, the general public and health professionals, is an important tool and an effective means of disseminating technical-scientific information that aims to prevent the transmission of this zoonosis and clarify doubts, informing the population about the means of prevention.

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