

**SHORT COMMUNICATION**

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**PROGRAMS FOR CONTROLLING CONGENITAL  
TOXOPLASMOSIS: STUDY OF CURRENT STATUS IN A  
BRAZILIAN MUNICIPALITY**

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**ABSTRACT**

Measures for congenital toxoplasmosis prevention may be performed at three levels. Primary prevention is characterized by education and public health programs, in which susceptible pregnant women receive guidance on sources of infection and on adopting preventive measures. The secondary level consists of serological screening during prenatal care. Finally, the tertiary level operates in already infected newborns, seeking to prevent clinical damage and late complications. This study aims to describe the situation of control measures for congenital toxoplasmosis in Niterói-RJ according to the National Health Promotion Policy. In Niterói, only secondary prevention is being implemented and there is no guidance on preventive measures to seronegative pregnant women. There is also no notification of congenital and acquired toxoplasmosis cases during pregnancy.

**KEY WORDS:** Toxoplasmosis; pregnant women; primary prevention; knowledge; congenital toxoplasmosis.

**RESUMO**

Programas de controle da toxoplasmose congênita: estudo da situação atual em um município brasileiro

As medidas de prevenção da toxoplasmose congênita podem ser implementadas em três níveis. A prevenção primária caracteriza-se por programas de educação e saúde pública, nos quais as gestantes suscetíveis recebem orientações sobre as fontes de infecção e como adotar medidas

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profiláticas. A secundária consiste no *screening* sorológico durante o pré-natal e a terciária tem como foco o recém-nascido já infectado buscando prevenir danos clínicos e complicações tardias. Este estudo teve por objetivo descrever a situação do controle da toxoplasmose congênita no município de Niterói-RJ de acordo com a Política Nacional de Promoção da Saúde. Neste município, está implantada a prevenção secundária da toxoplasmose congênita. Não há orientação sobre as medidas preventivas para gestantes soronegativas, como também não há notificação dos casos de toxoplasmose adquirida na gestação e congênita.

DESCRITORES: Toxoplasmose; gestantes; prevenção primária; conhecimento; toxoplasmose congênita.

*Toxoplasma gondii* is a strictly intracellular protozoan that may cause congenital infection when acquired by women during pregnancy (Thiebaut et al., 2007) and when chronic infection reactivation occurs due to immunodeficiency (Remington et al., 2010) or reinfections (Elbez-Rubinstein et al., 2009; Garcia, 1968; Gavinet et al., 1997). A large proportion of infected women are asymptomatic (Montoya & Rosso, 2005) but congenital toxoplasmosis can be associated with severe or fatal fetal outcomes if not treated (Jones et al., 2001; Spalding et al., 2003). Preventive measures for congenital toxoplasmosis may be accomplished on three levels (Ambroise-Thomas, 2003). Primary prevention is characterized by basic education and public health programs (Contiero-Toninato et al., 2014; Foulon, 1992). Secondary prevention consists of serological screening during prenatal care (Foulon, 1992). Tertiary prevention acts on already infected newborns aiming to prevent clinical damage and late complications (Magorzata et al., 2001).

The present study is observational and aims to describe the application of control measures for congenital toxoplasmosis adopted by the municipal health service of Niteroi municipality-RJ, making a critical analysis using the parameters recommended by the Ministry of Health and the National Politics for Health Promotion. This study began in 2012 during interviews with pregnant women and health professionals of the *Policlínica Regional do Largo da Batalha* (PRLB: a community polyclinic) and Family Doctor Program units from Niteroi municipality, Rio de Janeiro. The present study was approved by the Ethics Committee for Research on Human Beings of the Oswaldo Cruz Institute (CAAE number 02591512.2.0000.5248), in accordance with Resolution 466/2012 of the National Health Council.

### *Description of the current status of congenital toxoplasmosis control in Niteroi municipality*

Niterói is considered a medium size municipality and is located in the metropolitan area of Rio de Janeiro State. Regarding prenatal assistance in the public health care system, the municipality has 29 units of the Family Doctor Program and five Regional Out Patient Polyclinics where low risk prenatal

assistance is provided. Additionally, there is one polyclinic specialized in human health where high-risk prenatal assistance is given, and one municipal maternity hospital that is the reference centre for low-risk pregnancies. High-risk pregnancies may be attended in the maternity wings of Azevedo Lima State Hospital and the Antônio Pedro University Hospital of Fluminense Federal University.

A previous study with pregnant and post partum women attended within this municipality's public health system was conducted between September 2010 and September 2011 (Moura et al., 2013). Among the 400 pregnant and post-partum women included in the study, 234 (58.5%) had IgG antibodies against *T. gondii*. Among those, one pregnant woman had IgM antibodies against *T. gondii*. Risk factor analysis showed significant association ( $p < 0.05$ ) between seropositivity and age, contact with cats, presence of rats in households, and lack of knowledge about the transmission and prevention of toxoplasmosis. In another study (Millar et al., 2014), 289 women (72.2%) stated that they had never heard about toxoplasmosis. Incidentally, of the 111 women (27.8%) who recalled knowing about the disease, many had incorrect information. Because many women of childbearing age are susceptible to the infection and displayed a lack of knowledge on the topic, the adoption of preventive measures for toxoplasmosis may be considered a great need for that population.

Niteroi municipality implements the secondary level preventive measures against congenital toxoplasmosis, among the three possible ones, detecting IgG and IgM antibodies against *T. gondii* during prenatal care. If IgM antibodies against *T. gondii* are detected in a pregnant woman's serum, the patient is referred to units of high-risk prenatal care. There is no guidance about preventive measures for serum negative pregnant women, thus primary level prevention is absent. Health professionals need to work with the constant delay with receipt of serum test results, which may take up to two months. Moreover, there is a high demand of patients for a reduced number of health professionals, which hampers the implementation of educational activities. There is no notification of cases of acquired toxoplasmosis during pregnancy and congenital toxoplasmosis. The notification of the positive cases is very important for the adoption of control measures.

According to the Health Ministry of Brazil (Brasil, 2012), serological screening is recommended, especially in places with high prevalence such as Niteroi. The main purpose of screening is to identify susceptible pregnant women for subsequent follow-up, with the adoption of primary preventive measures in seronegative pregnant women and early detection in those seropositive, aiming to prevent fetal transmission and also to offer treatment in case of intrauterus contamination (Spalding et al., 2003). Although in many regions of the country serological screening is implemented, the actions are not

uniform. In Londrina, Paraná state, the “Program of Vigilance of Gestational and Congenital Acquired Toxoplasmosis” was implemented in 2006. After the implementation of the program there was a decrease in the number of pregnant women and children referred to high-risk services. Moreover, the definition of protocols resulted in standardization of care and higher reliability for doctor’s decision making (Contiero-Toninato et al., 2014; Lopes-Mori et al., 2011). This program is being used as a model by the Health Ministry to install toxoplasmosis surveillance at a national level.

The National Politics for Health Promotion, established by the document *Portaria* GM/MS nº 687, on March 30th of 2006 (Brazil, 2010), ratified the commitment to the expansion and qualification of health promoting actions in the Brazilian Unified Health System (SUS). Education is one of its operational strategies, with the aim of installing a permanent level of training. Additional operational strategies include surveillance, monitoring and evaluation that uses multiple approaches for generation and analysis of information about the health conditions of subjects and population groups, specifically aimed to subsidize technical and political decisions. Finally, these strategies also include the dissemination of knowledge and stimulation of a reflective attitude toward the problems and existing collective needs.

Such operational strategies could be used as a reference and contribute to the implementation of a congenital toxoplasmosis control program in Niterói municipality. In that way, health professionals that work on prenatal programs will understand the severity of this preventable disease, alongside the factors that favor its high prevalence, emphasizing health education practices and the importance of the adoption of preventive measures by susceptible women. Following the practices described here will make it possible to interrelate what is recommended by the National Politics for Health Promotion and the actions developed by health professionals, and hence contribute to improving assistance and follow-up of pregnant women and the quality of prenatal assistance. The irrationality of such programs is giving greater importance to secondary prevention rather than primary prevention to avoid maternal infection. The reality of pre-natal care and congenital toxoplasmosis control is below the recommendations, and this is probably not only the reality in Niterói, but in many Brazilian municipalities. What is written on the politics and manuals of the Health Ministry is not being implemented for the population as it should be.

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