

# Toxoplasmosis in Pregnant Women: Prevalence in One University Hospital (Brasília City, Distrito Federal, Brazil)

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## ABSTRACT

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## Introduction

*Toxoplasma gondii* is a parasitic protozoan that affects about a third of the world population. The prevalence is variable, and depends on climatic, socioeconomic and cultural factors [1,2]. Although most infected are asymptomatic, the congenital form can cause mental retardation and blindness. Vertical transmission occurs predominantly in women who acquire primary infection during pregnancy [3] or due to immunocompromising [4]. The vertical transmission rate depends on gestational age, varying up to 81% in the last semester [5]. However, lesion severity is higher in the first trimester [2]. Toxoplasmosis prevalence in pregnant women varies greatly from country to country and between regions of the same country [6]. Knowledge of the rate of seronegative pregnant women is important for planning prenatal and neonatal care programs [7]. In the population survey absence, prevalence in pregnant women has been used to infer prevalence rates. Recently, in 2018, a large outbreak in Southern Brazil was verified, reinforcing the toxoplasmosis monitoring importance.

## Subjects and Methods

A total of 112 pregnant women were included in the first trimester of gestation, (Clinical Analysis Laboratory, University Hospital-HUB, Brasilia city, DF, Brazil). This study was carried out

in accordance to Declaration of Helsinki and approved by Research Ethics Committee (School of Medical Sciences, 048/12). Sera were tested by indirect chemiluminescent immunoassay (Diasorin®, Saluggia, Italy). Antibody levels were expressed in UI/mL for IgG and UA/mL for IgM. Data analysis was performed using the Statistical Package for the Social Sciences (Chicago Incorporation). Difference was considered significant if  $p < 0.05$ .

## Results and Discussion

Of the 112 pregnant women, four (3.6%) were positive for IgM, indicating active infection presence; IgG was positive in 43 pregnant women (38.4%) while 69 (61.6%) presented negative serology. The latter represent susceptibility rate to *T. gondii* infections. Two patients (1.8%) presented indeterminate results. Age range of 36-50 years had the highest susceptibility to toxoplasmosis (85.7%). In Brazil, only pregnant women undergo routine serological tests, with seroprevalence in pregnant women being used as indicative of prevalence in the population. Toxoplasmosis seropositivity prevalence in Brazilian pregnant women varies greatly between studies and between different regions of the country. In Brazil, rates ranging from 9.8% [8] to 91% [9] are found. This study showed a toxoplasmosis reactivity prevalence (38.4%) in pregnant women treated at HUB, which receives patients from all over the

Distrito Federal and from surrounding cities, and can be considered as an epidemiological indicator. Susceptibility rate among pregnant women in the first trimester of gestation found here, greater than 60%, emphasizes the need for follow-up pregnant women during pregnancy in order to prevent vertical disease transmission and minimizing consequences. Knowledge of epidemiological reality in different regions is important to provide support for prevention actions.

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