



Maternal Serological Screening for Congenital Toxoplasmosis During Pregnancy and Evaluating the Pregnant Women's Knowledge on Toxoplasmosis in Qazvin, Iran

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Abstract

Background: The present study was designed to determine the prevalence of *Toxoplasma gondii* seronegative pregnant women, estimate the frequency of fetuses at risk of congenital toxoplasmosis in the study area, and also to investigate the awareness of the studied mothers about *T. gondii* disease.

Methods: A total of 740 pregnant women referred to two health centers in Qazvin province were surveyed voluntarily for anti-*T. gondii* IgG and IgM antibodies by enzyme-linked immunosorbent assay (ELISA). IgG avidity test was used as a confirmatory test for samples showing positive or borderline results for IgM antibodies. Data on socioeconomic, demographic, and knowledge of participants about toxoplasmosis were collected using questionnaires and through face-to-face interviews. Multivariable logistic regression modeling was used to identify the potential predictor variables for *T. gondii* infection.

Results: Overall, 21.2% (157/740) and 0.27% (2/740) of pregnant women were positive for *T. gondii* IgG and IgM antibodies, respectively. Only 1.7% (13/740) of expectant mothers had prior information on toxoplasmosis. Among socioeconomic and demographic variables, contact with soil was the merely cause of a significant association with *T. gondii* infection. Other variables including age, occupation, education level, residential area, source of drinking water, abortion history, number of delivery, consumption of raw/undercooked meat, having home cat and and consumption of raw vegetables failed to establish significant associations.

Conclusion: Our results clarified that the prevalence of *T. gondii* has remarkably reduced in the study area. This finding indicates a low risk of congenital toxoplasmosis in this region.

Keywords: *Toxoplasma gondii*, Prevalence, Pregnant women, Iran

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Introduction

Toxoplasma gondii is an obligate intracellular protozoan parasite found in humans and other warm-blooded animals, worldwide (1). There are many seroepidemiological studies in the literature focusing on the prevalence of *T. gondii* in pregnant women

due to the importance of congenital toxoplasmosis (2-7). Congenital infections with this parasite occur following primary infections during pregnancy in which tachyzoites are transplacentally transmitted to the fetus. Moreover, this parasite may be transmitted by blood transfusion and also organ transplantation



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