

## Evidence for Toxoplasmosis associations in thyroid disorders in pregnant women, Southwest, Iran, 2017-2018

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### Abstract

**Background:** *Toxoplasma gondii* has a worldwide prevalence and mankind get infected by this parasite as an interface host. The parasite reaches to different parts of body through blood and lymph after the entrance. It may enter the pituitary and thyroid glands and effect the production of thyroid hormones and TSH. Thyroid disorders are relatively common among pregnant women which may cause complications such as preeclampsia, abortion, preterm delivery. *Toxoplasma* parasite itself could cause abortion in pregnant women and they might also lead to cerebral, ocular damages in fetus. Therefore, this study was designed to investigate the relation between toxoplasmosis and thyroid disorders in pregnant women, Southwest, Iran, 2018.

**Material & Methods:** Serums of 630 pregnant women were examined for detection of *Toxoplasma gondii* IgG and IgM immunoglobulins and thyroid disorders through TSH test using AUTOBIO kits. The biometric and serological obtained results were analyzed by SPSS application and chi-square test.

**Results:** The *Toxoplasma gondii* IgG immunoglobulin was detected in 70.6% of the pregnant women with hyperthyroidism and there was a significant relation between above variations ( $P=0.001$ ). Prevalence of *Toxoplasma gondii* IgG and IgM immunoglobulins were 31.9% and 1.1%, respectively. While, hypothyroidism and hyperthyroidism prevalence among pregnant women were 28.1% and 2.7%, respectively and there was a statistically significant correlation between IgG immunoglobulin and education ( $P =0.004$ ), contact with cats ( $P =0.019$ ), and contact with soil ( $P=0.046$ ) variations.

**Conclusion:** This study proved that there is a statistically significant correlation between hyperthyroidism and *Toxoplasma gondii* IgG immunoglobulin in pregnant women ( $P=0.001$ ) and being infected with *Toxoplasma gondii* parasite can possibly be one of the reasons of hyperthyroidism among pregnant women. The hyperthyroidism complications such as spontaneous abortion, preeclampsia, heart failure, premature and low birth weight in pregnant women could be prevented by taking into account health measures for the avoidance of toxoplasmosis.

**Keywords:** *Toxoplasma gondii* IgG and IgM, hypothyroidism, hyperthyroidism, pregnant women