

# Meta-analysis indicates that one-fifth of the world's population exposed to *Toxocara*

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Human toxocariasis—a neglected tropical disease found worldwide, can cause a range of allergic, neurological, cardiac, and other symptoms. However, it also goes unnoticed in many people who contract the infection. Now, researchers report in *PLOS Neglected Tropical Diseases* that about 19 percent of the world's human population carries antibodies against *Toxocara*.

Human toxocariasis is caused by larvae of *Toxocara canis* or *Toxocara cati*, which are nematodes carried by dogs or cats. Humans contract infections through the ingestion of *Toxocara* eggs or larvae. Eggs, shed in the feces of infected animals, are often found in the soil around public parks and playgrounds, and can also contaminate vegetables. Toxocariasis can be associated with migraines, coughing, fevers and abdominal pain, and long-term [infection](#) may also lead to other symptoms including allergic skin disorders and asthma. Children living in poverty can be particularly affected.

In the new study, Ali Rostami and colleagues reviewed 250 previous studies of the prevalence of *Toxocara* infection or exposure. Together, the studies covered more than 265,000 people from 71 countries. Their review and meta-analysis using statistical methods showed that, globally, approximately 1.4 billion people, equating to 19 percent of the population, are exposed to *Toxocara*. The prevalence rates varied greatly between regions and countries—the highest rates were estimated for Africa (37.7%) and East Asia (34.1%) and the lowest for the Eastern Mediterranean region (8.1%) and Europe (10.5). The study also found a

slight trend toward an increasing prevalence in recent years, although the numbers were not statistically significant.

"To our knowledge, this is the first comprehensive meta-analysis to predict the global, regional and national anti-Toxocara seroprevalence rates in humans," the researchers say. "We suggest preventive veterinary and environmental measures, particularly in regions with high seroprevalences in order to reduce the risk of human exposure and infection."

**More information:** Rostami A, Riahi SM, Holland CV, Taghipour A, Khalili-Fomeshi M, et al. (2019) Seroprevalence estimates for toxocariasis in people worldwide: A systematic review and meta-analysis. *PLOS Neglected Tropical Diseases* 13(12): e0007809. [doi.org/10.1371/journal.pntd.0007809](https://doi.org/10.1371/journal.pntd.0007809)

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