

## **Prevalence of *Toxoplasma gondii* antibodies in stray dogs from various locations in West and East Malaysia**

### **ABSTRACT**

Toxoplasmosis is caused by an obligate intracellular protozoan parasite; *Toxoplasma gondii*, which is one of the most important zoonotic parasite worldwide. In dogs, the sexual reproductive cycle of *T. gondii* is lacking, and the animals are not widely consumed as food, but they are vital in the mechanical transmission of the parasite. However, there is no present data on the exposure of stray dogs to *T. gondii* in Malaysia. The objective of this serological survey was to determine the prevalence of *T. gondii* antibodies (IgG) and associated factors in stray dogs in East and West Malaysia. Antibodies to *T. gondii* were determined in serum samples from 222 stray dogs from 6 different states in East and West Malaysia (Peninsular Malaysia) using an Indirect ELISA. The seroprevalence for *T. gondii* was 23.4% (Confidence interval: CI 17.8–29.2%). Stray dogs from Selangor and Kuala Lumpur had the highest seroprevalence (32.4%; CI 13.2–45.5%) and lowest in those from Penang and Kedah (12.5%; CI 1.3–23.5%). Gender and breed were not associated with *T. gondii* seropositivity. However, adult dogs were more likely to be seropositive for *T. gondii* (OR=2.89; CI 1.1–7.7) compared with younger dogs. These results revealed that *T. gondii* is prevalent in stray dogs in the studied areas in Malaysia, and indicative of the level of environmental contamination of this parasite especially in urban areas.

**Keyword:** *T. gondii*; Stray dog; Prevalence; ELISA; Malaysia