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VERSITA

Gastrointestinal parasites in rural dogs and cats in Selangor and Pahang states in Peninsular Malaysia

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Abstract

To estimate the current prevalence of gastrointestinal (GI) parasites in dogs and cats, a total of 105 fresh faecal samples were collected from rural areas in Peninsular Malaysia. Each faecal sample was examined for the presence of GI parasites by microscopic examination after formalin-ether concentration technique and for protozoa, trichrome and Ziehl-Neelsen staining were employed. The overall prevalence of GI parasitic infection was 88.6% (95% CI = 82.5–94.7) in which 88.3% of dogs and 89.3% of cats were infected with at least one parasites species, respectively. There were 14 different GI parasites species (nematodes, cestodes and protozoa) detected, including *Ancylostoma* spp. (62.9%), *Toxocara* spp. (32.4%), *Trichuris vulpis* (21.0%), *Spirometra* spp. (9.5%), *Toxascaris leonina* (5.7%), *Dipylidium caninum* (4.8%), *Ascaris* spp. (2.9%), *Hymenolepis diminuta* (1.0%) and others. General prevalence of GI parasites showed a significant difference between helminth (84.4%) and protozoa (34.3%) infections. Monoparasitism (38.1%) was less frequent than polyparasitism (46.7%). As several of these GI parasites are recognized as zoonotic agents, the results of this investigation revealed that local populations may be exposed to a broad spectrum of zoonotic agents by means of environmental contamination with dogs and cats faeces and this information should be used to mitigate public health risks. Prevention and control measures have to be taken in order to reduce the prevalence rates especially in socioeconomically disadvantaged communities where animals live in close proximity to people, poor levels of hygiene and overcrowding together with a lack in veterinary attention and zoonotic awareness.

Keywords

Dogs, Cats, Gastrointestinal helminths and protozoa, rural area, zoonosis

Introduction

Pet dogs and cats are often considered to be the faithful friends and intimate companions of humans. This human-animal bond can provide substantial positive benefits with regards to emotional development, socialization and physiological well-being of humans (McGlade *et al*. 2003). With the increasing number of companion animals, there is more contact between domestic animals and people, exposing humans to zoonotic agents (Robertson *et al*. 2000, Lorenzini *et al*. 2007). Although dogs and cats are often considered family members by their owners, it is important to emphasize that they may play important role as host for zoonotic diseases to humans (Schantz 1994, Robertson *et al*. 2000). Likewise, the potential role of companion animals as reservoirs for zoonotic diseases has been recognized as a significant public health threat of pet ownership worldwide (Schantz 1994).

While many potentially zoonotic organisms are associated with dogs and cats, enteric pathogens are of particular concern (Robertson *et al*. 2000, McGlade *et al*. 2003). Intestinal helminths are one of the most common pathogenic agents in dogs and cats (Papazahariadou *et al*. 2007, Bridger and Whitney 2009). Among intestinal helminths, *Toxocara* and hookworm species of dogs and cats are most important to public health. The infections caused by these parasites receive great attention especially in developing countries and communities that may be socioeconomically challenged (Robertson *et al*. 2000) and they are responsible for some important zoonotic diseases (Despommier 2003, Prociv and Croese 1996). These dogs and cats tend to discharge helminth eggs or larvae into

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