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## Multiple zoonotic parasites identified in dog faeces collected in lower dir district, Pakistan: A potential threat to human health

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Data on environmental contamination of the parasites of zoonotic importance is very limited in Pakistan. Contamination of soil with dog faeces harboring infective stages of the parasites represents a relevant health-risk impact for humans. The aim of this study was to assess the environmental contamination with eggs of gastrointestinal parasites of stray dogs and household dogs in Dir district, Pakistan with special attention to those that can be transmitted to humans. One hundred and fifty two faecal samples from two breeds of dogs (stray dogs=90 and household dogs 62) were collected. The helminth eggs were concentrated by sucrose flotation and identified by microscopic examination. Of the total examined dogs 26.9% (n=41/152) were found to be infected with one or more intestinal parasites. The intestinal helminth detected were *Diphylidium caninum* (n = 18, 32.1%), followed by *Toxocara canis* (n = 16, 28.5%), *Taenia spp.*, (n=10, 17.8%) *Ancylostoma caninum* (n=6, 10.7), *Toxocaris spp.*, *Capillaria spp.*, and *Trichuris vulpis* (n=2, 3.57% each) in order of their prevalence. Pattern of infection revealed that 27 (65.8%) individuals have single, 13(31.7%) double and 1(2.43%) triple infection. The prevalence of infections in stray dogs was higher 34.4% (n=31) than house hold dogs 16.1% (n=10). The prevalence of infection with intestinal parasites was significantly different among these two breeds (P = 0.0097). To our knowledge, the study highlights for the first time in Pakistan a serious environmental contamination by numerous parasitic stages infective to humans. Efforts should be made to increase the awareness of the contamination risk of such parasites in the environment and implement a targeted educational program. There is a higher risk of zoonotic transmission from these animals and the results indicate an immediate need for the controlling of these parasites and about educating the public to take wise actions relating to the parasites and pets.

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