

Parasites with zoonotic potential in dog feces and sand collected in public squares in Blumenau-SC

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Although dogs and cats are companions of humans and contribute to their emotional, physical, and social well-being, they can often be definitive hosts of several zoonotic parasites. The presence of parasitized dogs and cats in streets, squares, parks, and other public places contributes to environmental contamination by infectious forms of zoonotic parasites. Given this problem, the aim of this study was to evaluate the frequency of eggs, cysts, oocysts and/or larvae of parasites in sand and fecal samples from nine public squares in the city of Blumenau, Santa Catarina, Brazil, during the four seasons of the year. The samples were collected between March 2021 and April 2022, totaling 223 samples of dog feces and 106 samples of sand. The samples were collected in public squares, outdoor environments, without protection from climatic factors such as temperature, rain, and wind. The dog feces samples were analyzed by the Willis method and the Faust method, and the sand samples were analyzed by the Hoffman method (1934) and the Floating in Saturated Sodium Chloride (NaCl) method. All the squares analyzed presented at least one positive sample for the presence of parasites throughout the sampling period. Of the 223 feces samples collected from March 2021 to April 2022, 31 (13.9%) were positive for at least one parasite. Of the positive samples recorded, *Ancylostoma* spp. was the most frequent parasite, being observed in 26 samples (57.8%); followed by *Entamoeba* sp., identified in 11 samples (24.4%), *Toxocara* sp. 6 samples (13.3%), *Trichuris* sp. 1 sample (2.2%) and presence of 1 sample (2.2%) with an unidentified nematode egg. As for litter box contamination, of the 106 samples collected, 11 (10.37%) were positive for some parasite, including eggs, larvae, and cysts. In the winter period (June, July, and August 2021) there were the highest number of fecal samples found, totaling 84 samples. However, regarding the proportion of contaminated samples, autumn led the way with 31.82% contamination. The feces samples had a significantly higher number of positive samples compared to the sand samples ($p=0.0045$). This is probably due to the contamination of the sand, as well as the soil, coming from the feces of infected animals. Thus, a higher number of positive feces samples was expected. These results highlight the importance of improving public spaces by placing and maintaining fences in playgrounds, controlling animals that live loose and without guardians, placing supports for bags for the collection of feces by owners, and educational campaigns so that animal feces are always collected. In addition, educational work in schools highlighting the importance of hand hygiene to reduce the risk of contamination by infectious forms of parasites present in soil and sand. These measures will contribute to the improvement of public health in the city of Blumenau, SC.