Dog stool collected in public areas as indicators of environmental contamination by zoonotic geohelminths: a collaborative mapping investigation in Feira de Santana, Bahia, Brazil

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Zoonotic geohelminth infections, particularly in urban areas with high animal traffic, where fecal deposition in shared spaces can lead to environmental contamination, pose a potential risk for human infection. This cross-sectional observational study aimed to determine the prevalence and spatial distribution of these parasites in dog stool collected from public areas in Feira de Santana, Bahia. Sample collection followed predefined trails, and collection sites were georeferenced using the +Lugar platform, which also recorded environmental variables. In the laboratory, samples were analyzed using the Gordon & Whitlock method with hypersaturated sodium chloride and zinc sulfate solutions. Statistical analysis included absolute and relative frequency calculations, Pearson's chi-square test, McNemar's test, and logistic regression in EpiInfo, as well as spatial analysis using a space-time scan model in SaTScan. Of the 272 samples analyzed, 19.49% tested positive for parasites, with Ancylostomidae (17.28%) being the most prevalent, followed by *Cystoisospora* spp. (5.51%) and *Toxocara* spp. (2.94%), with no significant difference between the solutions used in the tests. Six spatial clusters were identified, one of which was significant within the university campus (rr=3.00; p=0.021), warranting further investigation to determine the contributing factors. No significant associations were found between environmental variables and parasite positivity rates. Collaborative mapping conducted through the +Lugar platform contributed to identifying these conditions, facilitating result interpretation for future control measures. The detection of geohelminths in public areas highlights the need for continuous monitoring, educational initiatives, and animal management strategies aimed at preventing and controlling zoonoses within the One Health framework.

Keyword: Zonotic geohelminths, Spatial analysis, One Health