NEGLECTED WATERBORNE AND FOODBORNE PARASITES: EVALUATION OF SANITARY QUALITY OF ALTERNATIVE WATER SUPPLY SOLUTIONS AND FRESH VEGETABLES DESTINED TO SCHOOL-AGE CHILDREN IN A LOW-INCOME RURAL AREA

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Children constitute a specific vulnerable group to the acquisition of parasitic infection by food or waterborne routes. This study aimed to investigate the sanitary quality concerning parasitological contamination of alternative water supply solutions (AWSS) and raw vegetables used for child feeding in a rural area of the metropolitan region of Curitiba, with a low score within the Sustainable Development Goals. A cooperative of rural producers provided 140 samples of leafy vegetables, such as lettuce, red and green cabbage, escarole, parsley and chives for the analysis of helminths and protozoa. For this, 70 samples (30g each) were washed with glycine solution (1M), decanted, centrifuged, and all the sediment was examined under microscopy for the research of helminth eggs. Another 70 samples, each with three 30g replicates (90g/sample), were washed with 250mL of glycine, resulting in 750mL/sample. The eluate was concentrated by membrane filtration followed by elution and centrifugation, and the sediment was used for DNA extraction and PCR or qPCR analysis to detect *Cryptosporidium* spp. (*18S*), *Giardia* spp. (*bg*), and *Toxoplasma gondii* (*REP-529*). For AWSS, 20L of water from 12 sites (8 wells and 4 springs) were collected. The samples were filtered through a membrane and sediment analyzed using the aforementioned molecular methods. Direct immunofluorescence assay was also performed to detected (oo)cysts. Contamination by helminth eggs or larvae was identified in 41.4% of vegetables: hookworm and *Toxocara* sp., were detected more frequently. Pathogenic protozoa were identified in 16 vegetables samples: 47.5% harbored *Giardia*, 43.7% *Cryptosporidium* and 6.25% both. *Cryptosporidium* spp. were detected in 8.33% of AWSS. The results indicate widespread circulation of enteroparasites in vegetables and water used in meals for pediatric populations, highlighting the need to adopt control, management and sanitation measures to safeguard children's health.

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