Prevalence of intestinal parasitic infections in patients with diabetes: a systematic review and meta-analysis

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Abstract

Patients with diabetes are at an increased risk of intestinal parasitic infections (IPIs). We evaluated the pooled prevalence and OR of IPIs in patients with diabetes through a systematic review and meta-analysis. A systematic search was performed using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) protocol for studies reporting IPIs in patients with diabetes through 1 August 2022. The collected data were analyzed using comprehensive meta-analysis software version 2. Thirteen case-control studies and nine cross-sectional studies were included in this study. The overall prevalence of IPIs in patients with diabetes was calculated to be 24.4% (95% CI 18.8 to 31%). Considering the case-control design, the prevalence of IPIs in case (25.7%; 95% CI 18.4 to 34.5%) was higher than controls (15.5%; 95% CI 8.4 to 26.9%) and a significant correlation was observed (OR, 1.80; 95% CI 1.08 to 2.97%). Moreover, a significant correlation was seen in the prevalence of Cryptosporidium spp. (OR, 3.30%; 95% CI 1.86 to 5.86%), Blastocystis sp. (OR, 1.57%; 95% CI 1.11 to 2.22%) and hookworm (OR, 6.09%; 95% CI 1.11 to 33.41%) in the cases group. The present results revealed a higher prevalence of IPIs in patients with diabetes than in controls. Therefore, the results of this study suggest a proper health education program to preventing measures for the acquisition of IPIs in patients with diabetes.

Keywords: *diabetes, helminths, intestinal parasites infection, meta-analysis, protozoa, systematic review*