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Abstract:

This study aimed to evaluate the epidemiological status of *Entamoeba histolytica*, the causative agent of amoebic dysentery, in Babylon Governorate, Iraq, and to investigate the impact of climate change as a potential driver influencing its prevalence rates. Data were retrospectively collected from official health laboratory records, encompassing the number of examined and infected individuals, alongside variables such as age, gender, infection type, and geographical location. The findings revealed significant annual fluctuations in infection rates, with a sharp and marked increase recorded in the years 2021 and 2024, suggesting a potential escalation in parasite transmission. This surge may be attributed to multiple factors, including heightened public health awareness and testing uptake, or a genuine increase in parasite spread due to deteriorating environmental and sanitary conditions. It was further observed that children under five years of age were the most susceptible demographic, and areas with limited sanitation infrastructure reported the highest incidence rates. A comparative analysis with previous studies in the governorate confirmed that the current prevalence rates exceed the expected average, thereby strengthening the hypothesis that climate change acts as a contributing factor in the expanded transmission of *Entamoeba histolytica*. This research underscores the need for a deeper understanding of the parasite's epidemiology, the identification of influencing factors, and the assessment of climate change implications for public health in the region.

Keywords: *Entamoeba histolytica*, Climate Change ,Epidemiology ,Babylon, Governorate, Sanitation.