

Can parasites cause anemia and undernutrition in Northern Rwanda?

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Northern Rwandan inhabitants infected with more than two species of parasitic worm are more likely to be underweight than those with just one or with no infection, according to new research published September 15 in the open-access journal *PLoS Neglected Tropical Diseases*. The researchers, from the Rwanda Access Project, Imperial College London, and Columbia University, say this highlights the value of regular deworming for children.

Parasitic worm infections - often with more than two different worms - are some of the most common afflictions of people living in [developing countries](#), primarily in rural areas, where they often have no access to health services. Parasite infections generally receive less attention than other diseases in developing countries, and very few studies have examined the implications for human health of multiple infections (polyparasitism).

The aim of this study was to determine the burden of such infections on the health of people in Rwanda. The results show that Rwandans infected with more than one species of [parasitic worm](#) are more likely to be underweight. However, [infection](#) did not have as significant an effect on growth stunting or anemia, as has been observed in previous studies in other countries.

The research team recruited, examined, and analyzed a total of 1,605 children and adolescents from six schools in two districts of the Northern Province of Rwanda before treating them with safe and

effective anti-worm drugs. Another result showed that those who were badly nourished or underweight were more likely to be anemic, whether or not they had a parasitic infection.

"Parasitic worm infections are very common in low-income countries such as Rwanda," said Dr. Artemis Koukounari, corresponding author of the paper from the Department of Infectious Disease Epidemiology at Imperial College London. Infection with worms has a dramatic effect on anemia and growth in many developing countries, and in Rwanda, people infected with worms are more likely to be underweight than uninfected people.

"We believe that sustainable efforts to deworm the young people in Rwanda must continue in order to offer a worm-free generation whose physical and cognitive development can be strong so that economic development of the country can continue."

More information: Mupfasoni D, Karibushi B, Koukounari A, Ruberanziza E, Kaberuka T, et al. (2009) Polyparasite Helminth Infections and Their Association to Anemia and Undernutrition in Northern Rwanda. *PLoS Negl Trop Dis* 3(9): e517.
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