Schistosomes, hookworm and trichuris infections synergize to increase the risk of anemia

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New research published June 4th in the open-access journal PLoS Neglected Tropical Diseases provides evidence that the risk of anemia is amplified in children simultaneously infected with hookworm and schistosomes or hookworm and trichuris, when compared to the sum of risks for children with singular infections.

Amara Ezeamama and colleagues conducted this study in 507 school-age children from helminth-endemic villages in The Philippines, to determine whether co- infections of hookworm, schistosomes and trichuris in polyparasitized individuals magnified the risk of becoming anemic beyond the sum of risks associated with individual infections.

It is common in many tropical developing countries for individuals to be infected with several parasites at the same time. Despite this widespread phenomenon, the functional and health consequences of multiple infections for parasite-associated morbidity such as anemia are not clearly understood.

Previous work by these scientists suggested that low-intensity polyparasitic infections were associated with higher odds of anemia among school-age children relative to uninfected children or children with one low infection. This study goes further to specifically evaluate the type and extent of biological interactions between helminth species in polyparasitized individuals.

Results from this research suggest that combined treatment for some helminth species and schistosomes could yield greater than additive benefits for reducing the burden of anemia in helminth-endemic areas. However, more studies to understand the full range of interactions between parasite species in their joint effects on helminth-associated morbidities will be necessary to better predict the impact of wide-scale public health intervention.

Source: Public Library of Science