

## Publication

## Are schoolchildren less infected if they have good knowledge about parasitic worms? A case study from rural Côte d'Ivoire

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Parasitic worms (helminths) are common infections in low- and middle-income countries. For most helminth species, school-aged children are at highest risk of infection and morbidity, such as impaired cognitive and physical development. Preventive chemotherapy is the current mainstay for helminthiasis control. Sanitation improvement and hygiene-related education are important complementary strategies, which act by altering children's behaviour. However, little is known about the effect of improved knowledge on the risk of helminth infection. The aim of this study was to assess the potential influence of knowledge that children acquired at home or in school, without any specific health education intervention, on helminth infections.; In May 2014, we conducted a cross-sectional survey in western Côte d'Ivoire. A total of 2498 children, aged 9-12 years, were subjected to three consecutive stool examinations using duplicate Kato-Katz thick smears to determine infections with soil-transmitted helminths and *Schistosoma mansoni*. Additionally, children were interviewed to assess their knowledge about helminth infections. Four knowledge scores were constructed by factor analysis; one, reflecting general knowledge about helminths and three manifesting helminth species-specific knowledge. The effect of general and specific knowledge on children's helminth infection status was determined using meta-analysis.; Children who scored high in the hookworm-specific knowledge were less likely to be infected with hookworm but no association was found for the other helminth species. Moreover, greater general knowledge was not associated with lower odds of being infected with any helminth species. Most of the children interviewed believed that the effect of preventive chemotherapy is permanent, and hence, re-treatment is not necessary.; Specific knowledge about different types of helminths might not suffice to induce behavioural change which in turn reduces infection and reinfection with helminths. Health education interventions should strive to strengthen the perception of risk and to clarify the true benefit of preventive chemotherapy.

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