

Soil Transmitted Helminths: Epidemiology and Nutrition

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Soil-transmitted helminthes (STH) are found predominantly in tropical and subtropical areas around the world. It primarily consists of roundworms (*Ascaris lumbricoides*), whipworms (*Trichuris trichiura*), and hookworms (*Trichuris trichiura*) (*Necator americanus* and *Ancylostoma duodenale*). Children are mostly affected by *Ascaris* and *Trichuris*, whereas hookworm affects both children and young adults. Iron deficiency anemia, protein energy starvation, and stunted growth are all consequences. Intestinal blockages and gangrene can result from severe infections. Many innovative diagnostic techniques for detecting STH have been emerged [1].

Soil-transmitted helminths are spread by eggs that are carried in infected people's faeces. Adult worms spend their days in the intestine, where they lay hundreds of eggs each day. These eggs infect the soil in regions where cleanliness is lacking.

Epidemiology around the world: Epidemiology includes 1.7 billion People worldwide are afflicted with one or more STHs. According to a 2003 survey, the global prevalence of *A.lumbricoides* is over 1.2 billion, with China accounting for more than half of all cases. The prevalence of *T. trichiura* was projected to be 795 million, while hookworm prevalence was projected to be 740 million. Nearly half of all hookworm cases are found in Sub-Saharan Africa and China. Pullan a researcher found that the prevalence rate of *A. lumbricoides* was 819 million, *T. trichiura* was 464 million, and hookworm was 439 million in a 2010 survey, with South Asia and Sub-Saharan Africa accounting for more than half of the cases. The disparity in prevalence rates could be attributed to a variety of factors, including the fact that the 2010 review only included data from the global Atlas More Details of helminthic infections and analyzed only the group at risk of infection rather than the full general population [2].

Asia accounts for 67 percent of the global prevalence of STH, with India (21 percent) having the highest prevalence, followed by China (18 percent). Overall, the prevalence of STH dropped from 38.6% in 1990 to 30% in 2010. Other parts of Asia, including the Republic of China and Indonesia, had a significant reduction, whereas Sub-Saharan Africa saw only a minor shift in prevalence.

More than 267 million preschoolers and 568 million school-aged children live in locations where these parasites are widely transmitted, and they require

treatment and prevention. *S. stercoralis* is thought to infect about 600 million people worldwide, but because it is also transmitted in regions with poor sanitation, its geographic distribution overlaps with that of the other soil-transmitted helminthiases

Nutritional implications: The nutritional condition of people infected with soil-transmitted helminths is harmed in a variety of ways.

- The worms feed on the host's tissues, including the blood, causing iron and protein loss
- In addition, hookworms induce persistent intestinal blood loss, which can lead to anemia
- The worms increase nutritional malabsorption. Furthermore, roundworms in the intestine may compete for vitamin A.
- Some soil-transmitted helminths produce a loss of appetite, resulting in a decrease in nutritional intake and physical fitness. *T. trichiura* can cause diarrhea and dysentery in particular
- Iron that is lost as a result of the hookworm's eating and growth. Protein levels in the host are also impacted, as protein can be eliminated quickly through the urine. This can cause the body's supplies to be depleted, resulting in protein energy deficiency [3].

References

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