



Supportive Environments for Healthy Communities

## Issue 62 July 13, 2012 | Focus on Soil-Transmitted Helminth Infections

This weekly contains resources on the prevention and control of soil-transmitted helminth infections (STH). Approximately 2 billion people or almost 29 percent of the world's population are infected with STH infections worldwide. Resources in this issue include a June 2012 WHO STH fact sheet and a 2012 study that concludes sanitation is associated with a reduced risk of transmission of helminthiases to humans. Another study concludes that while preventive chemotherapy is the main strategy in many STH programs, this does not prevent re-infection, which can occur rapidly after treatment. Therefore, integrated control approaches emphasizing health education and environmental sanitation are needed to interrupt transmission of STH.

*Please let WASHplus know at any time if you have resources to share for future issues of WASHplus Weekly or if you have suggestions for future topics. An [archive](#) of past Weekly issues is available on the WASHplus website.*

### FACT SHEETS/BULLETINS

- **Soil-Transmitted Helminth Infections: Fact Sheet 366**, June 2012. World Health Organization. ([Full-text](#))  
STH infections are caused by different species of parasitic worms. They are transmitted by eggs present in human feces, which contaminate the soil in areas where sanitation is poor. Approximately 2 billion people are infected worldwide. Infected children are physically, nutritionally, and cognitively impaired. This fact sheet provides information on transmission, prevalence, symptoms, medications, and the WHO response.
- **Soil-Transmitted Helminthiases: Number of Children Treated in 2010**, *Weekly Epid Rec*, June 2012. ([Link](#))  
This epidemiological report on the state of helminth treatment among children in 2010 provides data on the number of children treated by age and region. A total of 328 million children received preventive chemotherapy for STH in 2010, corresponding to 31 percent global coverage.

### JOURNAL ARTICLES

- **Effect of Sanitation on Soil-Transmitted Helminth Infection: Systematic Review and Meta-Analysis**, *PLoS Medicine*, Jan 2012. K Ziegelbauer. ([Link](#))

Despite a number of study limitations, the authors conclude that sanitation is associated with a reduced risk of transmission of helminthiases to humans. Access to improved sanitation should be prioritized alongside preventive chemotherapy and health education to achieve a durable reduction of the burden of helminthiases.

- **The Global Limits and Population at Risk of Soil-Transmitted Helminth Infections in 2010**, *Parasit Vectors*, Apr 2012. R Pullan. ([Link](#))

This article presents evidence that the prevalence of *A. lumbricoides* and of *T. trichiura* infection is statistically greater in peri-urban areas compared to urban and rural areas, while the prevalence of hookworm is highest in rural areas. Globally in 2010, an estimated 5.3 billion people, including 1 billion school-aged children, lived in areas stable for transmission of at least one STH species, with 69 percent of these individuals living in Asia.

- **Patterns and Risk Factors for Helminthiases in Rural Children Aged Under 2 in Bangladesh**, *SA Jnl Child Health*, Sept 2011. E Roy. ([Link](#))

Risk behaviors such as disposal of child feces and defecation by adult family members in open spaces and use of common source surface water for washing clothes and utensils were practiced by 62 percent, 83 percent, and 50 percent of the cohort families, respectively. Bivariate analysis shows that disposal of child feces in a closed space resulted in a 35 percent reduction in helminth infestation, use of tube well water in a 48 percent reduction, and breastfeeding in a 16 percent reduction.

- **A Research Agenda for the Control and Elimination of Human Helminthiases**, *PLoS Neglected Tropical Diseases*, Apr 2012. ([Link to reviews](#))

The Disease Reference Group on Helminth Infections put forward a series of eight reviews that, taken together, outline a compelling research and development agenda for the control and elimination of helminth diseases in humans.

- **Prevention of Soil-Transmitted Helminth Infection**, *J Glob Infect Dis*. Apr-Jun 2011. L Mascarini-Serra. ([Link](#))

The global strategy for the control of STH is based on: regular treatment, health education, sanitation and personal hygiene, and other means of prevention, such as vaccines and remote sensing. The reasons for the development of a control strategy based on population intervention rather than on individual treatment are discussed, as well as the costs of the prevention of STHs, although these cannot always be calculated because interventions in health education are difficult to measure.

- **Soil-Transmitted Helminth Reinfection after Drug Treatment: A Systematic Review and Meta-Analysis**, *PLoS Neglected Tropical Diseases*, May 2012. J Tie-Wu. ([Link](#))

Preventive chemotherapy is the mainstay of control. This strategy, however, does not prevent re-infection. STH re-infections occur rapidly after treatment, particularly for *A. lumbricoides* and *T. trichiura*. Hence, there is a need for frequent anthelmintic drug administrations to maximize the benefit of preventive chemotherapy. Integrated control approaches emphasizing health education and environmental sanitation are needed to interrupt transmission of STH.

## REPORTS/MANUALS

- **First Principles: Designing Effective Education Programs for School Health in Developing Countries Compendium**, 2011. USAID. ([Link](#))

This compendium provides an overview and guidance for designing and implementing programs that support and integrate school health and nutrition activities into education programs in developing countries.

- **Helminth Control in School-Age Children: A Guide for Managers of Control Programmes**, 2011. World Health Organization. ([Link](#))

A school-based control program comprising deworming, improvement of water and sanitation, and health education can reduce the transmission of schistosomiasis and STH infections and prevent the development of associated morbidity. A comprehensive control program should include all three of these components.

- **Microbial Exposure and Health Assessments in Sanitation Technologies and Systems**, 2011. T Axel. ([Link](#))

This book focuses on the health factors related to pathogenic organisms. The attempt is to assess and review evidence in relation to health impact and to discuss the findings based on epidemiological evidence, risk assessment, and behavioral aspects and practices.

- **Parasites and Related Interactions in Water Resources and Rural Communities**, 2012. South Africa Water Research Commission. ([Link](#))

This study examined the degree to which parasitic organisms (helminths, *Cryptosporidium*, *Giardia*, *Cyclospora*, and *Isospora*) occur in water resources and sewage treatment plants in the Limpopo Province. The participative “photovoice” method, which allows local community members to communicate their concerns relating to their water sources via photographs and associated statements, was investigated and found to be well received.

## WEBSITES

- **Centers for Disease Control and Prevention – Parasites: Soil-Transmitted Helminths.** ([Link](#))

This website contains general information, risk factors, photos, and other resources.

- **USAID – Neglected Tropical Diseases.** ([Link](#))

USAID has become a global leader in large-scale implementation of integrated treatment programs for Neglected Tropical Diseases. Over the past 5 years, the U.S. government has leveraged \$3.1 billion in donated medicines, resulting in the delivery of more than 532 million treatments to approximately 232 million people through its integrated programs.

- **World Health Organization– Intestinal Worms: Health Education Materials.**

[\(Link\)](#)

For teachers who may be unfamiliar with teaching the subject of worms, health education materials can be extremely useful. This site contains a range of these products including calendars, posters, booklets, and games for classroom use.

Each WASHplus Weekly highlights topics such as Urban WASH, Indoor Air Pollution, Innovation, Household Water Treatment and Storage, Hand Washing, Integration, and more. If you would like to feature your organization's materials in upcoming issues, please send them to Dan Campbell, WASHplus knowledge resources specialist, at [dacampbell@fhi360.org](mailto:dacampbell@fhi360.org).



**About WASHplus** - WASHplus, a five-year project funded through USAID's Bureau for Global Health, creates supportive environments for healthy households and communities by delivering high-impact interventions in water, sanitation, hygiene (WASH) and indoor air pollution (IAP). WASHplus uses proven, at-scale interventions to reduce diarrheal diseases and acute respiratory infections, the two top killers of children under five years of age globally. For information, visit [www.washplus.org](http://www.washplus.org) or email: [contact@washplus.org](mailto:contact@washplus.org).

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