

## **National Deworming Day Fact Sheet**

### **Soil-Transmitted Helminth Infections and, Anganwadi and School-Based Deworming**

#### **Summary:**

- Intestinal worms, or STH, are among the most common infections worldwide. The World Health Organization (WHO) estimates that 241 million children between the ages of 1 and 14 are at risk of STH infection in India.
  - These worms live in human intestines and consume nutrients meant for the human body. They are transmitted by eggs present in human feces, which contaminate soil in areas where sanitation is poor.
  - STH infections can lead to anemia, malnutrition, impaired mental and physical development, and reduced school participation. Safe, inexpensive and effective medicines are available to control infection. Regular treatment is a cost-effective method of controlling the public health threat of worms in the absence of improved sanitation.
  - India is launching a national Anganwadi and School-based deworming strategy through which all children between the ages of 1 and 19 will be administered deworming drugs by teachers and Anganwadi Workers. The WHO recommends school-based deworming as a safe and cost-effective intervention that achieves high coverage of at-risk children.
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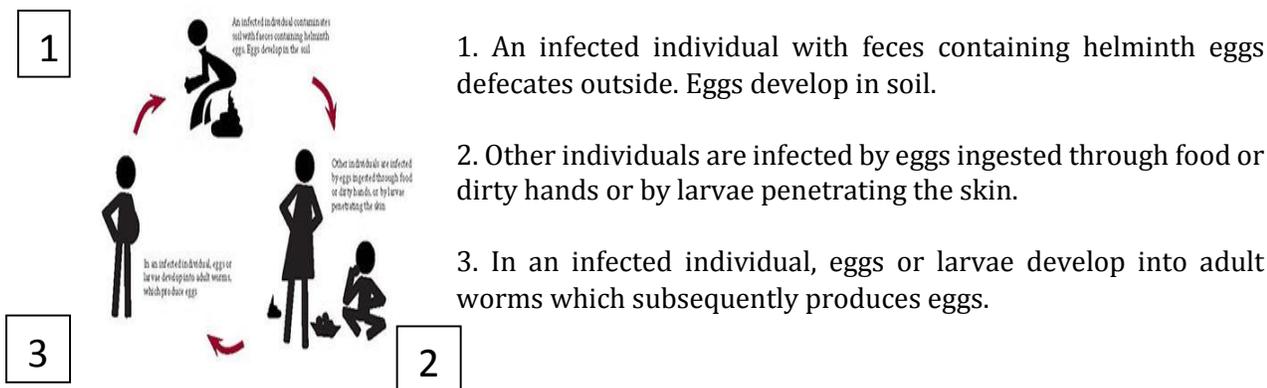
#### **Distribution and prevalence of STH:**

- *Global burden:* More than 1.5 billion people or 24% of the world's population are infected with STH worldwide. Infections are widely distributed in tropical and subtropical areas, with the greatest numbers occurring in sub-Saharan Africa, the Americas, China and East Asia. Over 600 million school-age children and 270 million preschool-age children are in need of regular treatment and preventative interventions.
  - *India burden:* WHO data indicates that STH is a significant public health concern for India, with 241 million children between the ages of 1 and 14 predicted to be at risk of STH infections.<sup>1</sup> This represents approximately 68% of the world's children in this age group and approximately 28% of all children estimated to be at risk of STH infections globally. State-wide worm prevalence estimates are not available in all states, although plans are to conduct prevalence surveys in all states in the next five years.
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#### **STH transmission:**

- There are three main types of STH that infect people: roundworm (*Ascaris lumbricoides*), whipworm (*Trichuris trichiura*) and hookworms (*Necator americanus* and *Ancylostoma duodenale*).
- Adult worms live in human intestines for food and survival where they produce thousands of eggs each day.
- Infected people who defecate outdoors spread worm eggs in their feces.
- Subsequently, the eggs contaminate the soil which can spread infection in several ways:
  - Attached to vegetables that are ingested when the vegetables are not carefully cooked, washed or peeled;
  - Ingested from contaminated water sources;
  - Ingested by children who play in soil and then put their hands in their mouths without washing them.

**Figure 1: STH Transmission Cycle**



**Symptoms of infection:**

- Regular treatment of at-risk populations will reduce the intensity of infection and protect infected individuals from morbidity.
- The greater the amount of worms in an individual (intensity), the more symptoms the infected individual will have.
- People with light infections usually have no symptoms.
- Heavier infections can cause a range of symptoms including diarrhea, abdominal pain, and weakness.
- Loss of appetite

**Prevention of infection:**

Infections can be prevented by taking precautions, including:

- Using sanitary toilets, *not* defecating outside
- Hand-washing, particularly before eating and after using toilets
- Wearing slippers and shoes
- Washing fruits and vegetables in safe and clean water
- Properly cooking food
- Keeping nails clean and short

**Nutritional and health consequences of infection:**

STH impair the nutritional status of the people they infect in multiple ways:

- Worms feed on host tissues, including blood, which leads to anemia.
- Worms increase malabsorption of nutrients. In addition, roundworm may compete for vitamin A in the intestine.
- The nutritional impairment caused by STH is recognized to have a significant impact on growth and physical development.

**Benefits of treatment:**

Rigorous studies have shown that deworming has a significant impact on the health, education and livelihoods of treated children. Outcomes of deworming can include:

- Decreases anemia and improves nutrition
- Increases growth and weight gain
- Improves cognition and mental and physical development
- Increases resistance to other infections
- Supports more frequent school attendance

- Improves children's ability to learn better and be more active in school
- Increase hours worked and wages earned in the long-run in adulthood

Deworming also has important spillover effects, meaning that other members of the community who do not receive treatment benefit, as there are fewer worms in the environment. This is especially important for children who are too young to be treated but for whom worms can greatly impair cognitive development.

#### **Anganwadi and School-based deworming strategy:**

- WHO recommends deworming without previous individual diagnosis to all at-risk people living in endemic areas.
- Ministry of Health and Family Welfare (MoHFW) is launching the National Deworming Day on 10th February, 2015 in selected 12 States/UT's namely Assam, Bihar, Chattisgarh, Delhi, Dadar & Nagar Haveli, Haryana, Karnataka, Maharashtra, Madhya Pradesh, Rajasthan, Tamil Nadu and Tripura in the first phase.
- In India, as in many countries in the world, deworming treatment is delivered through mass campaigns in schools because teachers can safely and cost-effectively administer treatment to large numbers of children.
- Deworming treatment is delivered by teachers and Anganwadi Workers, with oversight from the health system including ASHAs. Children, the community and parents are comfortable with their teachers. Teachers can easily give deworming to children with basic training and have been successfully deworming children in some states in India and over 30 countries.
- One tablet (400mg) of Albendazole will be given to all children between the ages of 2 and 19 (both enrolled and non-enrolled) and half tablet (200mg) of Albendazole will be given to all children between the ages of 1 and 2 (both enrolled and non-enrolled) at least once a year on National Deworming Day.
- To cover the children who missed the doses due to sickness or absence in school will be covered during the Mop-Up Day on 13th February, 2015.

#### **Deworming goals:**

- *Global goal:* The WHO global target is to eliminate morbidity due to STH in children by 2020. This goal will be achieved by regularly treating at least 75% of the children in endemic areas (an estimated 873 million).<sup>ii</sup>
- *India goal:* The objective of National Deworming Day (NDD) in India is to deworm all school-age children (enrolled and non-enrolled) between the ages of 1-19 years through the platform of Government/Government aided schools and Anganwadis in order to improve their overall health, nutritional status, access to education and quality of life.

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<sup>i</sup> WHO PCT Databank: [http://apps.who.int/neglected\\_diseases/ntddata/sth/sth.html](http://apps.who.int/neglected_diseases/ntddata/sth/sth.html)

<sup>ii</sup> WHO, Eliminating Soil-transmitted helminthiasis as a public health problem in children, progress report 2001-2010 and strategic plan 2011-2020 (2012)