



SCHISTOSOMIASIS

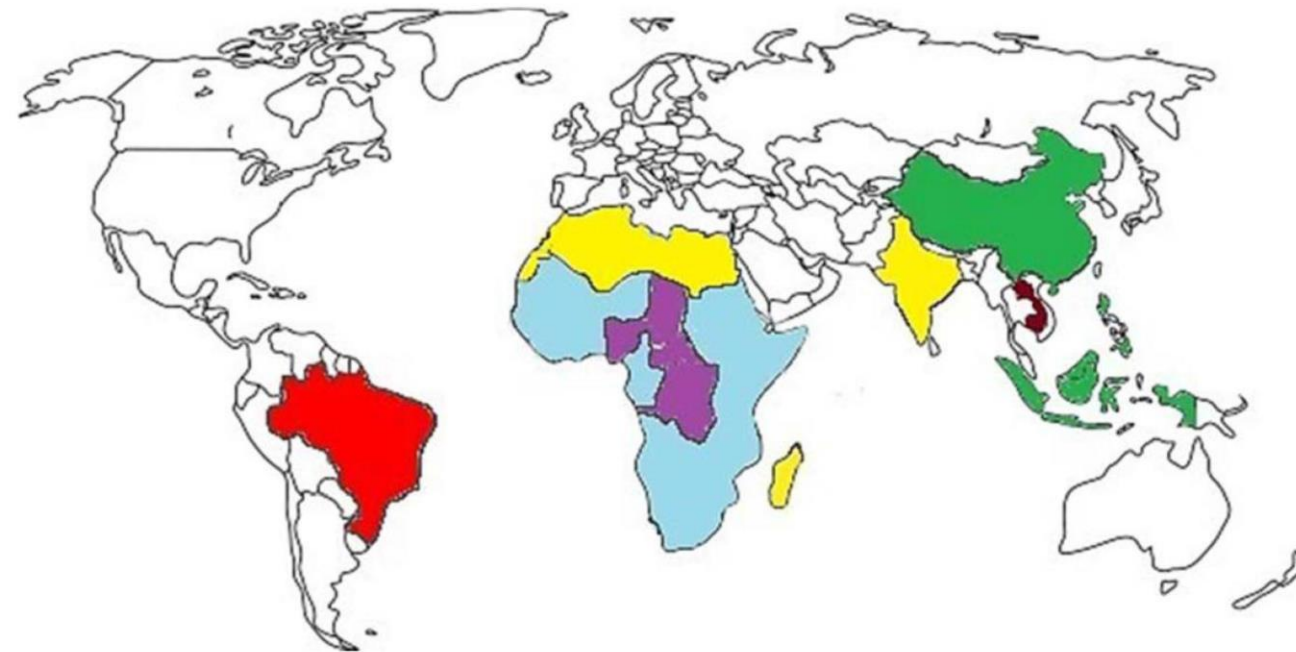
DR. AREEJ MUTHANA NOAMAN
COMMUNITY HEALTH DEPARTMENT

- 
- Schistosomiasis, also known as bilharzia, is a disease caused by parasitic flatworms called schistosomes, in the genus *Schistosoma*. The three main species infecting humans are ***Schistosoma haematobium*, *S. japonicum*, and *S. mansoni*.**
 - Urogenital schistosomiasis is caused by *Schistosoma haematobium* and intestinal schistosomiasis by any of the organisms *S. guineensis*, *S. intercalatum*, *S. mansoni*, *S. japonicum*
 - It can cause a range of chronic health problems, including damage to internal organs.
 - Several million people all over the world suffer from severe morbidity as a consequence of schistosomiasis.



EPIDEMIOLOGY

- Schistosomiasis affects almost 240 million people worldwide, and more than 700 million people live in endemic areas. The infection is most prevalent in tropical and subtropical areas, especially in poor communities without access to safe drinking water and adequate sanitation.
- **Urogenital schistosomiasis** *Schistosoma haematobium* Africa, the Middle East, France
- **Intestinal schistosomiasis** *Schistosoma mansoni* Africa, the Middle East, the Caribbean, Brazil, Venezuela
 Schistosoma japonicum China, Indonesia, the Philippines



Key:

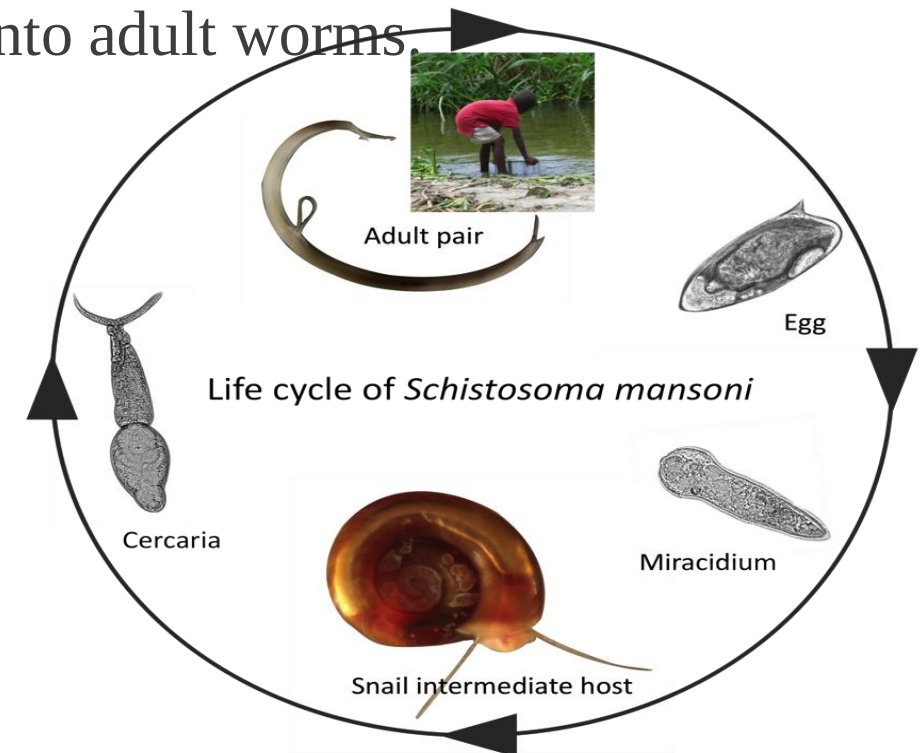
- *S. mansoni*
- *S. haematobium*
- *S. mansoni* and *S. haematobium*
- *S. japonicum*
- *S. intercalatum*
- *S. mekongi*

HOSTS

- Various animals such as cattle, dogs, cats, rodents, pigs, horses, and goats, serve as reservoirs for *S. japonicum*, and dogs for *S. mekongi*. *S. mansoni* is also frequently recovered from wild primates in endemic areas but is considered primarily a human parasite and not a zoonosis.
- Intermediate hosts are snails of the genera *Biomphalaria*, (*S. mansoni*), *Oncomelania* (*S. japonicum*), *Bulinus* (*S. haematobium*, *S. intercalatum*, *S. guineensis*).

TRANSMISSION AND LIFECYCLE

- Schistosomiasis is transmitted through contact with freshwater contaminated with the larvae of the parasite, released by freshwater snails. When people swim, bathe, or wade in the water, the larvae penetrate the skin and migrate through the body to the veins around the liver or bladder, where they mature into adult worms.



SYMPTOMS AND HEALTH IMPACT

- Symptoms of schistosomiasis are caused mainly by the body's reaction to the worms' eggs. Initial infection may cause a rash or itchy skin.
- Chronic infection can lead to various symptoms depending on the species of worm.
- *Schistosoma mansoni* and *S. japonicum* primarily affect the intestine and liver, causing abdominal pain, diarrhea, and liver damage.
- *haematobium* primarily affects the urinary system, leading to urinary tract infections, and bladder cancer, and can cause blood in the urine.



DIAGNOSIS

- Schistosomiasis is diagnosed through the detection of parasite eggs in stool or urine specimens.
- Antibodies and/or antigens detected in blood or urine samples are also indications of infection.

TREATMENT

- Praziquantel is the recommended treatment against all forms of schistosomiasis. It is effective, safe and low-cost.
- Even though re-infection may occur after treatment, the risk of developing severe disease is diminished and even reversed when treatment is initiated and repeated in childhood.

PREVENTION

- The control of schistosomiasis is based on large-scale treatment of at-risk population groups, access to safe water, improved sanitation, hygiene education and behaviour change, and snail control and environmental management.
- The WHO strategy on use of anthelmintic drugs now makes it possible to control schistosomiasis in poor and marginalized communities.
- Estimates show that at least 251.4 million people required preventive treatment in 2021. Preventive treatment, which should be repeated over a number of years, will reduce and prevent morbidity.

- 
- The WHO strategy for schistosomiasis control focuses on reducing disease through periodic, targeted treatment with praziquantel through the large-scale treatment (preventive chemotherapy) of affected populations.

Groups targeted for treatment are:

- pre-school-aged children;
- school-aged children;
- adults considered to be at risk in endemic areas and people with occupations involving contact with infested water, such as fishermen, farmers, irrigation workers and women whose domestic tasks bring them in contact with infested water; and
- entire communities living in highly endemic areas.

