



Elucidating the Tropical Medicine and Infectious Diseases Along with their Various Categories of Affecting the Poorest Countries

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DESCRIPTION

Tropical infectious diseases are any diseases endemic to or predominantly occurring in the tropical or subtropical regions of the world. The global burden of infectious diseases and the growing awareness of natural, accidental, and intentional biological threats have led to remarkable investments in infectious disease research. Converting the results of these studies into preventative, detection, and response efforts can often be difficult, especially if prior relationships and communication with decision makers have not been established. Which scientific information is shared with decision makers before, during, and after a public health emergency depends largely on the individual or organization communicating with the policymaker.

Tropical medicine began development in the 19th century, and doctors entrusted with providing medical care to settlers and soldiers first encountered an unknown infectious disease in the warm climate of Europe. In the last quarter of the 19th century, there were some major advances in the control of tropical diseases. For example, Sir Patrick Manson, a Scottish doctor, has shown that mosquito bites can transmit the parasite that causes filariasis. Other tropical diseases, such as malaria in 1898 and yellow fever in 1900, were quickly transmitted by mosquitoes.

Despite increasing investment in infectious disease research, regarding host-pathogen interactions, urbanization, pathogen transmission, pathogen evolution, and climate impacts on wild/ livestock-human interactions, existence of unknown but naturally occurring pathogens and other areas of interest. High levels of involvement and communication between researchers and policy makers identify important knowledge gaps that may reduce the level of uncertainty and promote better trust between scientists and policy makers. These efforts are enhanced by encouraging and training scientists to recognize the findings and transfer them to public health decision makers.

Tropical infections affect the low-income nations, including 149 countries and more than 1.4 billion people. They cost developing nations billions of dollars each year. These include

- Buruli ulcers
- Chagas disease
- Cysticercosis
- Dengue fever
- Dracunculiasis (sea worm disease)
- Echinococcosis
- Fasciolosis
- Human African Trypanosomiasis (African sleeping sickness)
- Leishmaniasis
- Leprosy
- Lymphatic filariasis
- Onchocerciasis
- Rabies
- Schistosoma japonicum

Buruli ulcers

Buruli ulcer is a disease caused by *Mycobacterium ulcerans*. It mainly affects the skin, but it can also affect the bones. Cases generally occur in the tropics, mainly in West Africa and Australia. Infections often cause ulcers on the arms and legs and can also destroy skin and soft tissues.

Chagas disease

Chagas disease, also known as American trypanosomiasis. *Trypanosoma cruzi* is transmitted to animals and humans by insect vector and is found only in the United States. Chagas disease is also known as *trypanosoma cruzi* in the United States.

Cysticercosis

Cysticercosis is a parasitic tissue infection caused by the larval cysts of the tapeworm *Taenia solium*. Cysts of these larvae infect

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the brain, muscles, or other tissues and are the leading cause of seizures in adults in most low-income countries.

Dengue fever

Dengue fever is a viral infection that infects people by being bitten by infected mosquitoes. The main vector of the disease is *Aedes aegypti*, to a lesser extent. Treatment includes fluids and pain relievers. Severe cases require hospital care.

Dracunculiasis

Dracunculiasis is rarely fatal, but infected people become non-functional for weeks and months. In 2020, 27 cases were reported. It takes 10 to 14 months from infection to completion of the infection cycle. Around this time, a mature female worm emerges from the body.

Echinococcosis

Echinococcosis also known as Hydatid worm, is the larval stage of *Echinococcus granulosus*, a tapeworm about 2-7 mm long found in dogs (definitive hosts), sheep, cows, goats, and pigs caused by an infection (intermediate host). Although most human infections are asymptomatic, CE causes harmful, slowly expanding cysts in the liver, lungs, and other organs that are often overlooked or ignored for years.

Fasciolosis

Fasciolosis hepatitis is an infectious disease caused by the flatworm parasites, which is called a liver fluke. Adult (mature) flukes are found in the bile ducts and liver of infected humans and animals such as sheep and cows.

Human African trypanosomiasis

Human African trypanosomiasis, also known as sleeping sickness, is a vector-borne parasite. It is caused by infection with a unicellular parasite of the genus *Trypanosoma*. They are transmitted to humans by being bitten by the tsetse fly (genus

Glossina, Glossinidae acquired infection from humans or animals harboring human pathogenic parasites.

Leishmaniasis

Leishmaniasis is a parasitic disease found in tropical, subtropical, and parts of Southern Europe. It is classified as Neglected Tropical Diseases (NTD). Leishmaniasis is caused by an infection with the parasite *Leishmania*. *Leishmania* parasites are transmitted by being bitten by sand flies.

Lymphatic filariasis

Lymphatic filariasis, globally recognized as a Neglected Tropical Disease (NTD), is a parasitic disease caused by fine filamentous worms. Adults live only in the human lymphatic system.

Onchocerciasis

Onchocerciasis also known as “river blindness” because the black flies that transmit the infection live and breed near fast-flowing streams and rivers, usually near remote rural villages. Infections can cause visual impairment and sometimes blindness.

Rabies

Rabies is a fatal but preventable viral disease. If bitten or scratched by a rabies animal, it can spread to humans and pets. Rabies is widespread on all continents except the Antarctic continent, with more than 95% of human deaths occurring in regions of Asia and Africa.

Schistosoma japonicum

Schistosoma japonicum is an important parasite and one of the major infectious pathogens of *Schistosoma japonicum*. This parasite has a very wide host range, including 9 carnivores, 16 rodents, 1 primate (human), 2 predators, and 3 parasites, at least. Since it infects 31 species of wild mammals, it can be considered a true common animal infectious disease.