



Epidemiology of *Mycobacterium Leprae*: A Neglected Tropical Disease

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DESCRIPTION

There are a number of tropical diseases that have been described, and all of them affect hundreds of millions of people every year worldwide. Nonetheless, while numerous tropical sicknesses have been disposed of from more-created nations, a portion of those infections have stayed significant wellsprings of disease and mortality in poor, underestimated, and country districts. Around one billion people worldwide are affected by these diseases, which are referred to as neglected tropical diseases. African sleeping sickness, Chagas disease, dengue, guinea worm disease, leishmaniasis, leprosy, lymphatic filariasis, onchocerciasis, rabies, schistosomiasis, trachoma, and yaws are examples of neglected tropical diseases.

The bacillus *Mycobacterium leprae* is the cause of leprosy, a chronic infectious disease. Despite the organism's ease of transmission, the majority of people do not develop the clinical disease because they are naturally resistant to the infectious agent. Skin and peripheral nerves are the primary targets of the disease. Depending on the patient's cellular immune status, its spectrum of manifestations can range from tuberculoid to lepromatous.

Epidemiology

Tropical nations, particularly Asia and Africa, have the highest leprosy rates. Even today, 105 nations are considered to be endemic for the disease, putting them at the greatest risk. The majority of these nations are located in Southeast Asia, Africa, North and South America, the eastern Pacific coast, and the Western Mediterranean coast. Sixty-four percent of all new cases worldwide originate in India alone. Leprosy has a current prevalence of 0.34 per 10,000 people.

In recent years, more than 200000 new cases of leprosy have been reported annually. Patients with leprosy who are not receiving treatment constitute the primary source. When the conditions are right, the microbe can persist outside of the patient's body in fomites and other sources, but most people in

endemic areas have developed resistance to the *mycobacterium*. India continues to have the highest number of cases worldwide, with Brazil coming in second. The most valuable markers utilized in the study of disease transmission incorporate the new case identification rate, the new case rate in kids under 15 years, and the quantity of cases with grade at least 2 handicaps. Uncleanliness occurrence in youngsters under 15 years old is one of the essential checking files of endemicity since disease in this age bunch is a consequence of ongoing transmission from a functioning case, with high endemicity around there. All of these characteristics indicate a lack of adequate healthcare in the affected region. When looking for the source of an infection, contact tracing is very important.

The following are confounding factors that could impede the collection of epidemiological data from developing nations. Lack of general information about the early signs and curability of leprosy, as well as a lack of accessible and specific treatment for the disease is factors that contribute to late diagnosis.

Other factors include:

- Changing definition of the disease.
- Not including recurrences in the prevalence rate.
- Not recording treatment dropouts.
- Treating patients with paucibacillary leprosy with a single dose regimen.
- Differences in the recommended duration of treatment.

As a result, the degree of physical disability caused by leprosy can also be used to evaluate the quality of medical care. It is essential to take into consideration the possibility of a reservoir of hidden leprosy that has not been tapped by case detection or leprosy programs and serves as a source of infection for the community whenever a large number of cases of permanent serious disability are found in a region. Any program to eradicate or control leprosy in any endemic region must include early detection, contact tracing, the detection of cases from this population, chemoprophylaxis or immunoprophylaxis for healthy household contacts, and supervised MDT for confirmed cases.

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