

State of the Globe: “Hansen’s Disease – Down but Not Out in the SARS-CoV-2 Era”

Hansen’s disease (leprosy) was infamously known as “The Death Before the Death” because patients with leprosy had to deal not only with the physical and facial deformities but also with the ostracism from their own families and society.^[1] People were fearful of the contagious nature of the disease and therefore leprosy patients were declared outcast and forced to live outside their main habitations in the so-called Lazar houses by religious orders.^[1]

In 1897, leading experts from around the world gathered in Berlin for the first Leprosy congress, and the only thing they all agreed upon was that leprosy was incurable.^[2] Leprosy patients suffered from destruction of facial cartilaginous tissues of nose, ears with loss of eyebrows, and formation of nodular lesions over the face, typically called “facies leprosa.”^[2] Leprosy patients also developed nerve lesions, resulting in numbness of the extremities, painless ulcerations of the hands and feet progressing to resorption, and destruction of digits.^[3] These typical manifestations of leprosy instilled fear in the family members and the society because there was no known treatment, and it was considered contagious. Leprosy became associated with a significant social stigma.^[1]

The disease is thought to have originated in India with oldest clear descriptions of leprosy from India between 600 BC and 1500 BC.^[2] The disease is thought to have spread to the Mediterranean region with the returning soldiers of the Alexander the Great after their quest in India between 327 and 326 BC.^[2] The slave trade then took it further to Africa and rest of the world over time.^[2]

Dr. Hansen was the first to discover rod-shaped bacilli in a patient’s nasal biopsy specimen under a microscope and proposed these bacilli as the causative agent of leprosy, called *Mycobacterium leprae*.^[1] The disease has been named after him as the Hansen’s disease.^[1]

We have come a long way since the dark ages when leprosy patients were left to die in Lazar houses. With the discovery of drugs such as dapsone, clofazimine, and rifampicin and the demonstration of their ability to cure all forms of Hansen’s disease, the world is now inching toward its elimination.^[4] In 2015, 211,973 new cases of Hansen’s disease were reported globally.^[4] India alone contributed 60% of the global load of new cases of leprosy, followed by Brazil (13%) and Indonesia (8%).^[4] Barring these three nations, there was no other country that reported over 10,000 annual cases of Hansen’s disease in 2015.^[4]

Research on leprosy has shown that among contagious agents, Hansen’s disease is the least readily transmitted infection.

Prolonged close contact with a person with untreated disease is required for its transmission, while 95% of the world’s population is naturally immune to this disease.^[3] Treatment of leprosy is given in the form of a combination chemotherapy to avoid the development of resistance to the available drugs, and it needs to be taken for 1–2 years depending on its paucibacillary or multibacillary nature.^[3] Free drugs for leprosy are provided by the World Health Organization (WHO) to all the countries around the world.^[4]

The vision of global leprosy strategy includes four main points, that is, zero disease, zero transmission of leprosy, zero disability due to leprosy, and zero stigma and discrimination.^[4] Leprosy is one of the neglected tropical diseases, and research, training, and dissemination of knowledge of leprosy is lacking among practitioners in tropical countries. To eliminate leprosy, it is important that the new cases be detected at an early stage of development of disease so that treatment can be started before the development of any deformities.^[4] This will also ensure that these patients do not spread the infection to the people surrounding them. Patients with leprosy become noncontagious after taking few doses of combination chemotherapy.^[4]

India reported 137,685 new cases of leprosy in 2007, and, in 2016, the number remained almost the same at 135,485.^[5] The Indian government is conducting the Leprosy Case Detection Campaign in the fifty highly endemic districts of India with the help of accredited social health activists.^[5] The role of medical and nursing schools cannot be undermined for this disease because if they stop training their graduates in the diagnosis of leprosy, the future generations of physicians and nurses will miss many more cases, resulting in the resurgence of leprosy as has been noted in many states of India.^[5] With the decline in the number of cases of Hansen’s disease, the physicians in the USA have been found to easily miss the diagnosis.^[3] Physicians worldwide need training in the common early manifestations of the disease on the skin, face, nerves, and mucosa. The missed diagnosis allows the bacillus to grow and spread in the society till the advanced form of disease brings it to the notice of everyone. The WHO is making efforts to educate physicians using smart technologies. The WHO recently launched a mobile-based app to help physicians diagnose leprosy with ease in their clinics.^[6]

The ongoing SARS-CoV-2 pandemic has disrupted the health-care services worldwide that has severely affected the community programs for tuberculosis and leprosy in high-burden countries. On the brighter side, the pandemic has increased the adoption of internet-based telemedicine technologies by the physicians.^[7] Tele-dermatology can help

increase the outreach of expert dermatologists to the remote areas in need of expert opinions for diagnosing leprosy.

India remains the hub of leprosy in the world, and the disruptions brought about by the pandemic may lead to resurgence of this disease in some pockets of the world. Atram *et al.*^[8] have given a clinico-histopathological correlation of Hansen's disease in a rural tertiary care hospital in central India in the current issue of this journal, reminding us of a historically important disease that is down but not yet out.

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