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Historical Article

History of Leprosy in Sri Lanka: saga of three millennia

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Introduction

The history of leprosy in Sri Lanka dates back to the history of the country itself.

The words "leper" and "asylum", which are considered discriminating terms in today's context, are used here in the historical context. Even though leprosy is called "laaduru" in contemporary Sinhala, the word used in the ancient literature is "kushtha roga". The words "laasuru" and "laaduru" have been used in Sinhala writings in the 19th century.

The ancient era

Evidence for leprosy can be found in the ancient medical books written in the Anuradhapura era.

"Sarartha Sangrahaya" by the Surgeon king Buddhadasa in the 5th century describes 7 types of maha kushtha and 11 chula kushtha. Pundarika kushtha, sidhma kushtha and eka kushtha (absence of sweating and skin like that of a fish) resemble different presentations of leprosy.

"Yogarnavaya", written by Bhikku Buddhaputhra in the 12th century, describes 18 varieties of kushtha with 10 severe types and 8 types amenable to treatment. Sushrutha sanhitha, the ancient Ayurvedic text, describes 18 varieties with a slightly different classification. Even though individual types may be considered nonspecific, some of the types taken together describe the spectrum of leprosy accurately.

Bhesajja manjusawa mentions neuropathic lesions leading to ulceration and disability and features of lepromatous leprosy. Both the Sushrutha and charaka sanhitha give almost identical descriptions of "kushta poorwa roopa". The absence of sensation, absence of sweating, paraesthesia, goose bumps, unusual pain in the wound (neuropathic pain), ulcers that occur easily and last longer and numbness of limbs have been described as symptoms of "kushtha".

Based on the above, one can deduct that the word "kushtha" was an all-encompassing term with leprosy being one of them.

The "Mahawansa" narrates how king Buddhadasa cured a leper of his deranged mental condition when he used abusive language at the king in the marketplace. The statue "Kushtaraja Gala" in Weligama, is now established as an Avalokitheswara bodhisattva. Bodhisatava worship was used for relief from illness and it is believed that lepers of the South worshipped this statue seeking relief.

Stigma and discrimination in the ancient past

Going back to the lore of the union of the "lion" and Suppa Devi" the presumed ancestors of the Sinhala race, the most plausible medical explanation for the "lion" would be a well-built young man with lepromatous leprosy, who had fled to the jungles due to his disease. The fact that the offspring of a person with leprosy were accepted at the Royal court is evidence that discriminating of leprosy was not practiced at that time.

The Thripitaka contains the "suppabuddha kutti sutta" describing the story of "Suppabuddha" the leper, who gains enlightenment as the Buddha preached specifically for him in spite of his disease. The fact that he had access to the lord Buddha without restriction is evidence that persons affected were not discriminated upon.

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Bioarcheological work from the Indus valley has also shown that persons affected by leprosy were not treated differently in the earliest periods. During this period, it was believed that the dead should be provided with material possessions for the next birth. The burial practice of removing the affected feet, thus ensuring that the burdens of this birth are not carried over to the next birth, and burying the bodies with ash, a well-known antiseptic, are indicative of a compassionate attitude towards those affected. Evidence for discrimination appears later with the Veddas considering leprosy as a condition to be avoided in arranging a marriage.

The Portuguese era

No written records are available from this era. It is assumed that the Portuguese destroyed documents before the Dutch took over the rule of the coastal areas in 1658.

The Dutch era

Extensive documentation in the form of records of the Dutch political council, memoirs of the governors and other officials and placcaarts or directives are available.

Early in their rule, the Dutch realised that leprosy, among the locals and Europeans both, was becoming a serious health risk.

In 1693, a panel of experts was appointed and entrusted with the task of conducting a comprehensive census in preparation to establish a hospital. According to the placcaart, all persons irrespective of race or status were to be screened for the disease and be banished to India if found to have symptoms.

In 1703, authority was given to build a leprosy asylum. After much deliberation, the work at the present location in Hendala began during the rule of Governor Cornelius Joan Simons. The asylum was opened in 1708 by Governor Hendrik Becker.

Leper Asylum / Leprosy Hospital Hendala

The medical officers assigned to the care of leprosy received special training and carried out the treatments accepted in their time. Dr. Don Sam De Simon, Medical Superintendent of Hendala, was honored with OBE in 1951 for his services to leprosy.

Publications on the clinical features and treatment of patients at the leprosy hospital by these eminent doctors serve as rich sources of information. The nursing care was initially in the hands of religious sisters until 1964, when government nurses took over. The hospital houses some invaluable artifacts, including the first electric washing machine, the funeral carts and the old notice board carrying the daily statistics.

In 2008, celebrations were held to commemorate the 300th anniversary of the leprosy hospital with a stamp being released.

The British era

The highlights of the British era with regards to leprosy are the Lepers ordinance in 1908 and the establishment of the second leprosy asylum at Manthivu island off Batticaloa in 1921.

Medical publications

There were several publications on clinical presentations of leprosy from the early British period. Among them, a detailed description of leprosy of the joints by Dr. J. Kinnis and a series of 1700 patients treated at the leprosy hospital from 1863 by Dr. Heynsburg take pride of place.

In 1862 the Royal College of Physicians (RCP), on the invitation of the Colonial Secretary, formulated a five-member expert committee to study leprosy in detail with regards to its mode of spread, clinical features and the treatment options. Ceylon was one of the respondents, with Dr. John Davy, Inspector general of Army Hospitals giving details of patients he had seen in 1816. The 1864 report of the RCP was influential in shaping the rules and regulations on leper colonies and to guide treatment according to then available evidence.

Administration and legislation

The Ceylon Administration Report served as an important source of information about leprosy. The report in 1895 mentions that segregation was voluntary. In 1899, concerns were raised about voluntary segregation as there were patients who had been in and out of the hospital at their discretion with the possibility of spreading the disease in the community.

In 1897 the first international leprosy conference was held in Berlin. Recommendations were made to bring legislation for segregation, mostly based in experience of Norway. The Lepers Ordinance No 4 of 1901 resulted from these recommendations.

The ordinance contains 37 sections covering all aspects with provisions to ensure prompt and accurate diagnosis and compulsory institutionalisation and to facilitate home quarantine.

Several legislations, including the establishment code and Muslim marriage law, deal with leprosy. Initial steps have now been taken to change some of these like the Lepers ordinance and the Establishment code.

The logistic nightmare of transporting leprosy patients from the East, where there were a considerable number of patients, paved the way for a second leprosy hospital in the East. The proclamation by the governor, William Henry Manning, commissioning the hospital in Manthivu, was made on the 29th November, 1921. In 1996, it was decided to close down the Manthivu hospital. Even though 38 patients were transferred to Hendala, 2 patients who refused to leave are still residing in Manthivu.

Surveys and recommendations

In 1932 and 1936 Dr. Robert Cochrane, renowned leprologist, visited the island to conduct a survey in the western and the eastern provinces. He has paid special attention to the presence of leprosy in children and concluded that the disease is mild in children and emphasises on the importance of continuing their education. He has laid down recommendations on disease control activities as well as cases that need treatment.

In 1959, an island wide survey was carried out by the ALC. There were almost 3500 registered cases in total, with 881 inpatients. 330 plus new cases were detected and put on dapsone therapy.

Evolution of treatment in leprosy

In the late 19th century 2 oils, gurjun oil and chaulmoogra oil, were used as external applications. Chaulmoogra oil, extracted from the fruits of the Hydnocarpus plant, was used as an external application, oral suspension and later as an injection. In the 1920's addition of camphor and esterification were used to improve absorption of chaulmoogra oil. E.C.C.O. (combination of esterified chaulmoogra oil, creosote and camphor) was the mainstay of therapy. Poor response (approximately 50% did not show improvement) and the adverse effects like pain were the drawbacks.

In the 1930's sulphones were introduced. Sulphetrone and Thiosemicarbazone were used to treat leprosy in the 1940's onwards. Dapsone was introduced in the 1950's and was used as monotherapy for long periods.

With the confirmation of the efficacy of rifampicin and clofazimine against *M. leprae*, the WHO formed a working group to formulate a treatment regimen. The regimen had to be feasible to use under field conditions and economical enough to treat the estimated population of 16 million persons living with leprosy world-wide. Therefore, the present treatment, multi drug therapy (MDT) does not have an "evidence base" but has stood the test of time by bringing relief to millions of patients for over 40 years.

Anti leprosy campaign

The Anti leprosy campaign (ALC) was established in 1954. The administration of the 4 main centres (two leprosy hospitals, Central Leprosy Clinic and the colony in Uragasmanhandiya) and carrying out numerous disease control activities fell under the purview of the campaign.

The central leprosy clinic initially functioned as the coordinating centre for the peripheral clinics but was modified as a specialised treatment centre in 1957. The location has changed several times and the clinic now functions from Room 12, NHSL.

The leprosy colony in Uragasmanhandiya was designed for able bodied patients to receive treatment while being economically productive. It had a short lifespan from 1952 to 1963.

Statistics

Approximately 300-400 new patients were detected in the pre-MDT era. Since the registers contained all diagnosed patients, the total numbers were in the thousands. A comparison of statistics from 1960 to 2021 shows that the new case detection rate (NCDR) per 100 000 population fluctuated around 3 in the pre-MDT era. There was a gradual rise in the NCDR following the introduction of MDT. With the success of a social marketing campaign in the late 1980's the case detection improved markedly and has remained around 10 per 100 000 population since 2000. Following the COVID-19 pandemic there was a drop in case detection which is improving following strengthened public awareness.

In 1995, Sri Lanka was declared a country achieving the WHO target of elimination of leprosy as a public health problem. The highly technical point of "elimination as a public health problem" was understood widely as "no leprosy" or total elimination, whereas Sri Lanka had been within the WHO's elimination parameters throughout the history. This misconception of elimination has been a major obstacle for leprosy awareness and control in Sri Lanka.

A high rate of children among diagnosed patients (10-12%) is a matter for alarm as the presence of leprosy in children is a proxy indicator for ongoing transmission in the community. But the majority of children present with paucibacillary leprosy and have minimal disability denoting early detection.

The way forward

The current strategy of the ALC includes improving awareness leading to case detection and targeted interventions in high priority areas.

Sri Lanka is the first country to use the leprosy elimination monitoring tool (LEMT) proposed by the WHO and develop maps of the entire country under programmatic conditions. These maps and spot maps using GIS technology are used to identify areas of high priority and employ targeted interventions.

In conclusion, leprosy care in Sri Lanka has come a long way from segregation of patients to aiming at zero leprosy in the near future. A concerted effort by both the preventive and curative sectors is needed to make this goal a reality.