

Black Fever and British medical policy in India

Black Fever, or *kala-azar*, was a major health problem in northeast India under British rule from the 1860s. It affected Assam, Bengal and Bihar, both epidemically and endemically, and was a major cause of mortality. The disease attacked all economic classes and social groups, although it was less frequent among British and Indian troops. It led to depopulation and desertion, and affected the cultivation of tea and other crops, plantation profits and government revenue.

case in point: it was rampant in England and India in the second half of the 19th century. While sanitary reform eradicated this waterborne disease in the West, nothing similar was carried out in India. Only in Punjab were some measures made after considerable bureaucratic foot-dragging. It is difficult to ascertain how much of the revenue collected in India was spent on health and sanitation, but it was certainly not more than a fragment. It is undeniable that low priority was given to the health of India's rural population.

The Medical Department, perhaps more than any other, felt the effect of financial stringency. Fund retrenchment in medical research occurred frequently and reduced the research activities of the IRFA (GoI 1928: proceedings 20-21). In 1943 the expenditure per head on medical relief and public health for India was between 3 and 4 annas per annum. Of this, only one-third went to preventive medicine. In the UK Rs. 54/- per head per year was spent on medical relief alone (Vaughan 1944: 7).

There was no dearth of co-operation from the people in combating *kala-azar*. In Assam the people co-operated with health officials in maintaining regulations under the Epidemic Diseases Act for checking the progress of *kala-azar*. The villagers reported *kala-azar* and requested medical assistance and attended the anti-*kala-azar* campaign conducted by the Health Department. The people of Assam, Bengal and Bihar were not opposed to western medicine and they walked many miles to dispensaries to receive treatment. But the government's health policy had limited coverage; it could not bring the rural masses under the purview of treatment facilities.

The majority of villagers were left out of the scope of the public health service. Only the barracks, plantations, mines, factories and administrative headquarters received adequate medical attention. Conditions in most rural dispensaries were deplorable; they lacked medicine, qualified doctors and necessary infrastructure. An official estimate put the ratio of doctors to population in India in the 1930s at a very inadequate 1:10,000 (Bradfield 1938:2). The dispensaries and hospitals in the 1940s could treat only a segment of the population. The bulk of medical relief for India's 400m, more than 80% of whom lived in villages, was still provided by practitioners of indigenous medical systems (Grant 1943: 16, 19).

Deficient measures

The public health service was only partially developed in India and consequently diseases were widespread. In Bengal, the recorded incidence of *kala-azar* (probably a fraction of the actual incidence) had been steady from 1924

to 1943. After 1920, responsibility for tackling the disease was left to local authorities, who had inadequate resources (Ray 1998: 71-72). Affected villagers were often left to their fate and died untreated; Arthur Dash, Secretary to the government of Bengal in 1927 depicts in his memoirs a dismal *kala-azar* dispensary in Bengal, staffed by unskilled medical practitioners. Though the disease was showing signs of regression in certain districts in West Bengal by 1944, the incidence was increasing in a number of districts in East Bengal, particularly Chittagong, Dacca, and Faridpur. Even in Calcutta, part of which had been a focal point of infection in 1920-21, the disease was not only more prevalent in 1947 in that area, but had spread to other areas of the town as well (Sengupta 1947: 281-286).

Curative and preventive measures to control the incidence were also meagre in Assam. There had been several *kala-azar* epidemics and the incidence there was higher in the 1940s than in the previous decade. Inadequate arrangement for the treatment of diseases in rural areas of Assam was reported in public health reports (1933, 1944). The number of *kala-azar* patients at the CSTM became so large that the staff were unable to cope.

Moreover, no effective means of prevention based on the epidemiology of the disease was devised. Medical research had provided important clues pointing to the sandfly as the vector, but even after 1942 when the transmission agent was confirmed and the Director of Public Health in Assam advocated further preventive measures, means for controlling the vectors were not found. Continuous surveillance in key areas could have helped to prevent its spread. But thorough surveillance could not be carried out because of a paucity of doctors. Nothing was done to prevent the spread of disease by attacking the transmitting agent. There were neither short-term nor long-term projects for vector control, either by spraying insecticides or by providing better sanitation, even after the War.

Improvement of sanitation in rural areas and liberal use of lime wash might have been effective in making conditions unfavourable for the sandfly. But sanitary conditions in most towns in Assam, Bengal and Bihar, as in other parts of India, remained unsatisfactory until the end of British rule. In rural areas there was no conservancy system or protected water supply. Though pollution of the water supply was not directly connected with the prevalence of *kala-azar*, it is justifiable to suppose that defective conservancy might have been a determining environmental factor. In 1943 the government appointed the Health Survey and Development Com-

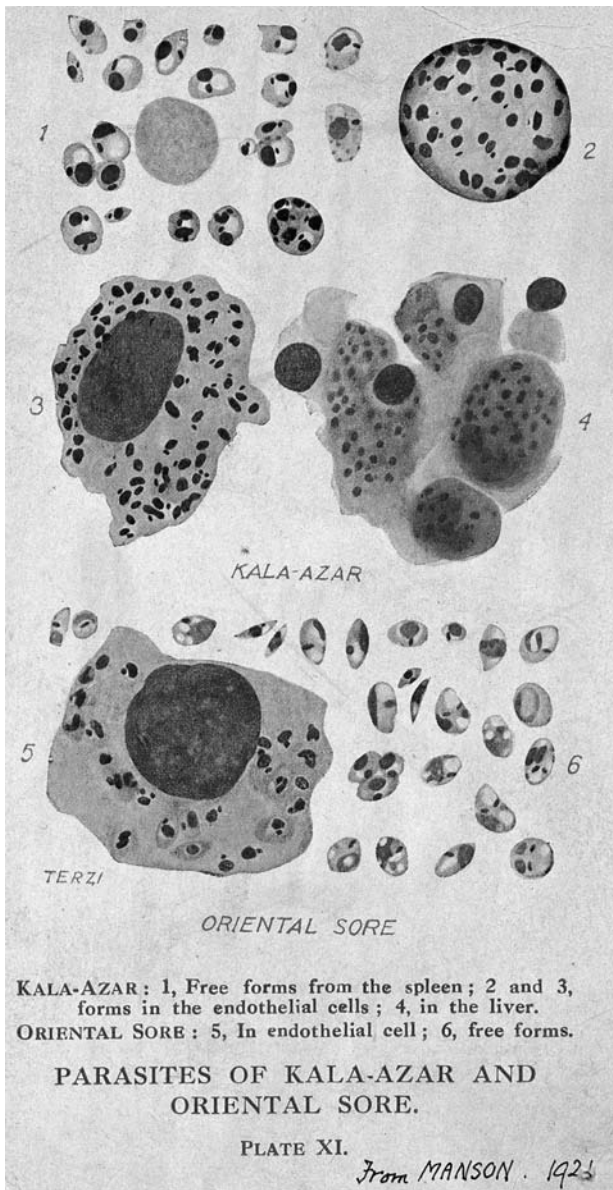
mittee (Bhore Committee), as part of the post-War development plan, to report on health conditions in India and take necessary measures for improvement. The report portrayed a shameful picture and recommended measures for controlling lethal diseases and improving public health.

Health policy changed following independence. Control of epidemic diseases received priority and modern medical technology was extensively used; both preventive and curative measures were emphasised. Based on the Bhore Committee's recommendations, the government of India launched health programmes and action plans for the control and eradication of major communicable diseases. The National Malaria Control Programme, launched in 1953, was one of the earliest effective steps in combating malaria. Because of the results it achieved and subsequent advice from the World Health Organization and other countries, the government launched the massive National Malaria Eradication Programme in 1958. Matching assistance from the central government, hitherto unavailable for any other public health programme, was given to assure the states' participation. Indoor residual spraying with DDT in appropriate seasons and fortnightly surveillance, followed by treatment of all detected cases, reduced the incidence of malaria from 75m in 1947 to 0.1m cases annually by 1965, and deaths due to it were almost eliminated (Swasth Hind 1998: 27). As a collateral benefit to extensive insecticide spraying since 1953, *kala-azar* transmission also declined to negligible proportions and death due to it reached almost nil by the mid-1960s. ◀

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Parasites of the tropical diseases *Kala-azar* and Oriental Sore. Colour photomechanical reproduction of a drawing by A.J.E. Terzi, ca 1921. Wellcome Library, London

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K*ala-azar* is an infectious disease caused by a protozoan parasite called Leishman-Donovan body, transmitted to humans by certain species of sandfly, and characterised by sometimes acute fever of long duration, enlargement of the spleen and frequently the liver, anaemia and progressive emaciation. It was first thought that outsiders carried the disease to the region after the advent of British rule; the Garos in Assam described it as *sarkari bemari* or British Government disease.

Medical knowledge

The disease seemed to have been brought under near-control after 1920 as diagnostic, curative and preventive measures were developed and implemented. Successful treatment started with the introduction of tartar emetic (the first effective antidote to *kala-azar*), which from 1919 was spread through propaganda campaigns, legal measures and medical research. The number of special *kala-azar* hospitals and dispensaries increased thereafter in Assam and Bengal. By the mid 1920s, more efficacious drugs were found, the most successful being urea stibamine. Treatment with these drugs reduced mortality rates and the government of Assam made treatment compulsory under the revised *Kala-azar* regulations in 1920 under the Epidemic Diseases Act.

Research on the disease continued until the end of British rule under the Indian Research Fund Association (IRFA) at the *kala-azar* research wards of the Pasteur Institute, Shillong and at the School of Tropical Medicine and Hygiene, Calcutta (CSTM). Experiments were conducted on the vector's behaviour, while early diagnosis of *kala-azar* used simple pathological tests and new drugs such as sodium antimony gluconate (SAG). In 1942,

the sandfly was conclusively proven to be the vector of *kala-azar*.

Thus all probable methods of conquest of *kala-azar* became known. It was known that treatment of all cases in an endemic area would lead to control if not eradication in that area. It was also known that modern insecticides, such as DDT and pyrethrum, were effective against the sandfly. But the disease could not be effectively controlled and eradicated even up to the 1940s because of inadequate funding and medical infrastructure, and because of the deplorable environmental conditions in the 'coolie lines' of tea gardens, villages and towns in Assam, Bengal and Bihar.

Public health a low priority

India's public health services lagged abysmally behind progress made in western countries. Besides *kala-azar*, diseases such as malaria, cholera, and tuberculosis caused havoc among India's rural population, even in the 1940s. Many of these diseases were rampant in England and other European countries up to the mid-19th century, though the neocolonial literature has portrayed India, in particular, as a quagmire of lethal diseases and epidemics. Some recent writers have taken a more critical view, arguing that European commercial and political penetration in the 19th century and the creation of colonial infrastructure – roads, railways, plantations, and labour migration – facilitated the dissemination of diseases (Arnold 1988: 5). Besides *kala-azar*, dysentery and cholera were associated with unsanitary conditions in the tea gardens. Planters were reluctant to spend money on sanitary improvements and Indians were blamed for their apathy and resistance to sanitary programmes.

The colossal investment in both sanitary reform and research into prophylactics made a vast difference between the tropical and temperate zones. Cholera is a