

Editorial

LEPROSY WORK IN CHINA*

To understand leprosy in China today a brief background is needed covering the 30 years since China took its health destiny into its own hands.

China in 1933[†] was a country ravaged by scourges and epidemics, poverty and pestilence, with people dying on the streets and famine swirling over the land. The future looked dark and hopes that the situation could be changed in a lifetime seemed remote. The life span in 1949 at Liberation was estimated at 32 years, death rate was 28/1,000 and infant mortality 200/1,000 live births. An old Chinese saying suggested that 'A man to live to the age of 70 was a rare sight'.

Since 1933 there has occurred the Anti-Japanese War, the Second World War, and the War of Liberation which brought victory in 1949. Following the formation of New China great progress was made in the general health of the people, and many of the communicable and infectious diseases were eradicated, while others, for example malaria, schistosomiasis, tuberculosis and kala azar, were brought under control. Infant mortality dropped to 30/1,000 in rural areas and to 12/1,000 in urban cities, the average life span rose to 68 years and the death rate came down to 6.2/1,000, a phenomenal accomplishment when compared with other developing countries. When the authors first came to the city of Beijing in 1949, some of the first nine causes of death on the mortality list were diseases of the infectious variety and those connected with infancy, opium poisoning, suicides etc. The tenth on the list was cardiovascular disease and the eleventh was cancer. In a few short years after Liberation the mortality list changed: first was cardiovascular disease and second was cancer. Progress on the one hand brought new problems on the other. How had all this happened?

Briefly, in 1950 the first China National Health Conference laid down a strategy for health work, emphasizing (i) nationwide services for the people, (ii) prevention, (iii) coordination of the indigenous traditional doctors and the modern trained ones, and (iv) the tactic of melding medical campaigns with mass programmes.

Following these guidelines a nationwide anti-leprosy campaign was inaugurated in the mid-fifties, soon after the more devastating acute communicable diseases were controlled. This programme was integrated into the health system

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†When the senior author, Dr Ma Haide (George Hatem), first came to China.

of the country. Organized by the Ministry of Health down to the provincial, prefecture, county and communes level, a network of leprosy stations, leprosariums, hospitals and leprosy villages was developed. Areas of higher endemicity were covered first. We now have 1,143 such institutions. The Institute of Dermatology and Venereal Diseases, organized in 1954 under the Chinese Academy of Medical Sciences, was responsible nationwide for technical and scientific leadership in leprosy work. Over the past 30 years a corps of 10,000 leprosy workers have been trained, not counting the short-term trainees among the barefoot doctors, who participated as aides in the many mass-survey campaigns. These trained barefoot doctors now participate in case detection, field treatment (after qualified diagnosis) and prophylactic treatment of family members and contacts, especially among the younger age groups. They perform follow-up duties in the field.

Leprosy has a history of over 2,000 years in China. It was first recorded in the *Nei Jing*, one of the earliest Chinese medical classics of the Warring States (403–221 BC) in which the symptoms and features of leprosy were described under the name of ‘Da Feng’. Records of the symptoms and remedies for leprosy were also found in the medical books and literature of succeeding dynasties and in various traditional folk tales. Moreover, prescriptions for leprosy treatment were found inscribed on bamboo slips recently excavated from the Han Dynasty (206 BC–AD 220) tomb of Magistrate Hsi (Xi) (262–217 BC) located in the Yun Ming district of Hubei near Wuhan City on the Yangtze.

Leprosy is endemic in various provinces of China with a much heavier endemicity in the coastal provinces and along the Yangtze Valley. In addition to the Han people, leprosy is also found among the minority nationalities. While working in Hainan Island it was found that leprosy was prevalent among the Li and Miao minorities as well as the Hans. The same was true of the Zhuang people in the Guangxi Autonomous Region which our medical teams have visited over the past 20 years.

After Liberation the total number of leprosy patients was estimated at 500,000. Now the figure has dropped to approximately 200,000, some 300,000 having been treated and ‘cured’. In passing, it must be noted that the old estimate of 2,279,000 leprosy patients in China, as reported in *Leprosy in the World* by the WHO in 1966, is way off the mark.

In our leprosy control we followed the four major guiding health principles mentioned above and adhered to well-tried methods of public health education, various mass and spot surveys for case finding, isolation of infectious cases, active treatment of all patients, protection of the contacts and organized follow-up. These measures have proved quite effective. For example, Guangdong, Guangxi, Jiangsu and Shandong are the four provinces with a high endemicity of leprosy among a population of 246 million people. From the mid-1950s until 1980 a total of 223,000 cases were found and treated, and now, in 1980,

there are still 29,277 under treatment. The prevalence rate has dropped from slightly less than 1/1,000 to 1.4/10,000.

China is a developing country with a vast territory and a large population. The geography of the country and the density of the population vary greatly in the different areas, and these characteristics affect the epidemiology of the disease and the efficacy of control. Thus, in the Inner Mongolian Autonomous Region there have been only 34 cases registered in the past 30 years. In the far northern province of Heilungjiang only 868 cases have been found in the past 35 years, mostly among immigrants (96%). In south-west China, whose population consists of a multitude of different ethnic groups, mostly in mountainous terrain, leprosy control work is more difficult than in the coastal provinces. Good progress is now being made in these outlying areas.

The endemic areas have been steadily localized and the number of newly infected children and adolescents has decreased. The results of large-scale BCG vaccinations for cross immunity have proved inconclusive and, as endemicity decreases, mass surveys have proved to be too expensive both economically and in man power. — A recent calculation indicated that approximately 700 Yuan (£185) was spent to find a new lepromatous case by the mass survey method. As an alternative the health authorities are rewarding the barefoot doctor or other medical workers for every new case they discover on their own. The patient is encouraged to report him or herself and is also rewarded.

Treatment of all leprosy cases is paid for by the State. In addition a basic food subsidy is provided for all institutionalized patients. Ambulatory cases are taken care of by the antileprosy network or the basic health organizations in the countryside.

Dapsone (DDS) was of 50–100 mg for adults. Other drugs such as sulphetrone, TB-1, thiambutosine, rifampicin, and clofazimine were also used, and combination therapy is now replacing DDS monotherapy. Some formulations of Chinese traditional medicines were used in experimental therapy but so far none has been found to be very effective in direct treatment. For the treatment of reactions we have discovered an effective herbal drug called *Lei Gong Teng* (*Tripterygium Wilfordii* Hook F), which we now use. When this herb extract was used in reversal reaction (Type 1) there was improvement in 32/34 cases (94.1%). The average improvement of erythema was 4–5 days, neuralgia 6.3 days, oedema 3 days, and fever 4 days. The glucosides obtained from the herbal extract are also effective. The drug, still under investigation, is effective also in some dermatoses. We also use thalidomide and the corticosteroids in reaction treatment. At present investigations with acupuncture for nerve pain and herbal treatments combined with modern medicine are continuing in many leprosy hospitals and leprosaria. DADDS is used in therapy and prophylaxis. Most of the leprosy drugs mentioned above are produced domestically, but some in insufficient quantities. Reconstructive surgery of deformities, the prevention

and care of ulcers, orthopaedic surgery (claw hand, drop foot), plastic surgery (replacement of eyebrows, reconstruction of the nose) and the making of prostheses are done in several leprosy hospitals in some provinces, but on a small scale.

Isolation of 'open cases' was stressed during the 1950s and 60s when a large number of institutions were built, with a total of 86,000 beds. This was considered necessary at that time, and played an important part in guaranteeing regular treatment, reducing the sources of infection, in rehabilitation surgery, and in research. However, with the newer therapy being effective in 'closing' the 'open cases' quickly, it is possible to stop isolating the lepromatous cases except in special circumstances or for special needs. Already some leprosy hospitals have been combined with others or phased out. Work of the out-patient departments has been extended to take care of the ambulatory cases. Experience shows that with early discovery and treatment of cases the spread of the disease decreases after about ten years and this should improve with the introduction of the new drugs.

A few words on relapse in leprosy. The relapse rates seem to vary from 2% to 18%, depending on whether or not the sulfone or other treatment was regular and adequate. The whole problem is under investigation, especially with the introduction of the newer drugs such as rifampicin.

After 30 years of struggle against leprosy we have achieved some satisfactory results. Our campaigns of treatment and care have, as stated above, resulted in 300,000 cases 'cured', although this has left a large amount of work in both rehabilitation and the relief of disabilities, the deformities, ulcers and other stigmata so that the patients can be returned to society. The task that faces us in the future is very great. The problem of relapses has to be handled seriously. With the easily discovered cases already found, there remains the hard core problem of finding the remainder, now less than one per hundred thousand population. Early detection methods must be sought and ways to identify the 'risk group' must be studied. Improvements in the treatment of deformities and their prevention, and the search for more effective therapy combining traditional Chinese and modern medicines are further tasks to complete. Much work is needed in research to support epidemiological and control measures, and on immunology and the mechanism of nerve injuries as well as rehabilitation-oriented research. Whilst aiming at the full control and basic eradication of leprosy by the year 2000, we realise there is much work to be done in China.

We have established international exchange and co-operation with various organizations abroad such as the WHO, the International Leprosy Association, and the Leprosy Mission and hope to extend these exchanges in the future.

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