

# Report

## **International Seminar on Leprosy, Agra.**

**January 31 - February 3, 1967**

Written by the Chairman of the Scientific Programme Committee of the Seminar.

An International Seminar on Leprosy was held in Agra for 4 days following the inauguration of the India Centre, Japanese Asian Leprosy Mission (JALMA). The Seminar was sponsored by the Government of India in collaboration with the Indian Association of Leprologists and the All-India Workers Conference usually organised biennially by the Hind Kusht Nivaran Sangh. For this purpose the biennial Conferences of the two organisations due to be held at the end of 1966 were dropped and were merged with the International Seminar at Agra.

The Seminar was attended by over 200 delegates from India and about 40 delegates from abroad. The biggest delegation came from Japan, but there were delegates from United Kingdom, United States, Malaysia, etc. The organisations represented at the Seminar included World Health Organisation, UNICEF, Leonard Wood Memorial (American Leprosy Foundation), American Leprosy Mission, Leprosy Mission (the former Mission to Lepers), British Leprosy Relief Association (former British Empire Leprosy Relief Association) and British Medical Research Council.

The Seminar was inaugurated by Dr. Sushila Nayar, Minister for Health and Family Planning, Government of India. There were four Scientific Sessions and a Concluding Session. Each Session generally had two sittings, and the Chairmen of the Sessions were Dr. Dharmendra, Dr. N. Jungalwalla, Dr. P. N. Wahi, Prof. S. Hassagawa, Dr. F. Hemerijekx and Dr. O. W. Hasselblad.

At the inaugural session Dr. N. Jungalwalla, Additional Director General of Health Services, Government of India, welcomed the delegates and the Seminar was then declared open by Dr.

Sushila Nayar, the Union Minister of Health & Family Planning. In her inaugural address, Dr. Nayar highlighted the extent of the leprosy problem in India and the existing and planned anti-leprosy measures. She also referred to the international nature of the problem and expressed her gratefulness to the several international organisations that were lending help in the anti leprosy work in India. After the inaugural address, short speeches were made by Dr. Dharmendra, Chairman of the Scientific Programme Committee; Major General C. K. Lakshmanan, Hon. Secretary of the Hind Kusht Nivaran Sangh, Dr. R. V. Wardekar, President of the Indian Association of Leprologists; and some foreign delegations. Col. R. R. Rao, Deputy Director General of Health services, Government of India, proposed a vote of thanks.

The First Session dealt with the National Leprosy Control Programme in its first sitting, and the prophylaxis of leprosy in the second. In the first sitting, Drs. P. N. Khoshoo, V. Ekambaram and P. Kapoor described the extent of the leprosy problem and the present anti-leprosy measures and the proposals for their future expansion in India as a whole, Madras and Maharashtra States respectively. Dr. V. K. Sharma spoke on the 'Operational Aspects of Methods and Objectives in Leprosy Control Work', and Dr. V. P. Macaden described the results of a pilot study in methods of integrating leprosy work into General Health Services. Dr. A. B. A. Karat presented results of Absentative Survey in a Domiciliary Control Programme. According to Dr. Khoshoo out of 450 million population in India, about 300 million are exposed to leprosy infection, with an estimated 2.5 million cases of leprosy. So far only about one-fifth of the population at risk has been covered, and about 650 thousand cases of leprosy recorded; during the Fourth Plan (till 1971) it is expected to expand the coverage very considerably. Dr. Ekambaram stated that Madras was one of the most highly

endemic state with 35 million people exposed to risk of leprosy infection, and an estimated number of patients of 600 thousand. During the 3 plan periods in the post-independence era, about 5 million population has been covered, and 125 thousand patients brought under treatment. According to Dr. Kapoor there are about 300 thousand cases of leprosy in Maharashtra, of which about half have been recorded, and about 75% of the recorded patients are under treatment. Both these speakers brought out the importance of the extra-familial contact in the transmission of the disease in highly endemic rural areas, a fact which is now generally recognised.

In the sitting on Prophylaxis of Leprosy, Drs. Dharmendra and R. V. Wardekar presented their findings regarding the Chemoprophylaxis with Dapsone (DDS), and Dr. R. J. W. Rees presented the findings of Dr. Kinnear Brown on Immunoprophylaxis with BCG Vaccination. Dr. Dharmendra described the results of a study which has been in progress at the Central Leprosy Institute, Chingleput, for about 5 years; in a highly endemic area covering a population of about 215 thousand, with about 4.5 thousand leprosy patients, and a lepromatous rate of about 15%. The study has been carried out in intra-familial healthy contacts of infective patients, up to the age of 15 years, which were divided into 2 comparable groups—Prophylaxis and Control. The salient features of the results are: (i) There have been 41 leprosy patients in the Control Group (an incidence of 13%) and only 19 patients in the Prophylaxis Group (an incidence of 6%); (ii) There was a lag period of about 9 months after starting DDS prophylaxis during which there was no difference in the incidence of the disease in the 2 groups; and (iii) The protective effect was evident only in contacts up to 10 years of age, the most marked effect being in the contacts up to 2 years of age. In Dr. Wardekar's investigations the entire healthy population up to 25 years of age living in 54 villages has been included in the study. Twenty-seven of the villages have been taken as 'Control' and the other 27 as 'Prophylaxis' villages. During the period under study in the

'Control' villages, there were detected 54 leprosy patients in a population of 11,270 (4.79 per thousand) at the first resurvey after about a year, and 65 patients in a population of 12,124 (5.36 per thousand) at the second survey at the end of another year. The corresponding figures in the 'Prophylaxis' villages were 29 patients in a population of 11,270 (2.53 per thousand) and 14 patients in a population of 11,900 (1.7 per thousand) respectively. Unlike the results in the previous (Dharmendra) study, in Wardekar's study the protective value of DDS was seen in persons beyond the age of 10 years also, in the 10-25 age group. (However, the groups of contacts in the 2 studies were not comparable.) In presenting Dr. Brown's findings in Uganda with a lepromatous rate of 8%, Dr. Rees stated that the early results suggested a protection of 80% by BCG Vaccination, and that the protection was independent of the age at vaccination. In a follow-up study for varying periods up to 3 years, there were in all 107 leprosy patients, 89 among the 8,071 unvaccinated children, and 18 among the 8,091 BCG vaccinated children. Thus the incidence amongst unvaccinated children was 11 per thousand, and in the vaccinated children 2.2 per thousand.

The Second Session was devoted to papers on Recent Advances in Leprosy Research. Dr. C. C. Shepard spoke on 'Recent Advances in Experimental Pathology in Leprosy'; Dr. R. J. W. Rees on 'Recent Advances in Transmission of Experimental Human Leprosy in Mice'; Dr. M. Nishiura on 'Recent Advances in Electron Microscopy of Leprosy in Mice'; Dr. C. K. Job on 'Pathogenesis of Nasal Deformity in Lepromatous Leprosy'; Dr. K. Ramanujam on 'Follow-up Studies in Borderline Leprosy'; Dr. C. G. S. Iyer on 'Pathological Changes in Borderline Leprosy'; and Dr. M. S. Dash on 'Studies on the Mechanism of Cutaneous Sensory Loss in Leprosy, and an attempt for replacement.

Dr. Shepard developed on the practical applications of his now well-known technique of injecting leprosy material into the footpads of

mice. He then described the results of the studies of increasing resistance with BCG vaccination, and of those directed toward more precise understanding of the action of DDS. The results showed that vaccination with BCG afforded mice immunity against *M. leprae*, and that as little as 0.0001% DDS in the diet of mice is enough to prevent multiplication of *M. leprae*. Dr. Rees demonstrated the effect of enhancing infection in mice by depressing the immunological responses of the mice by prior thymectomy plus total body irradiation. The result was multiplication of the bacilli to a greater extent, and the infection, which normally remains localised to the footpad, becoming systemic. Dr. Nishiura presented ultra-structural features of leprosy bacilli in the various kinds of host cells in varieties of leprosy lesions. Dr. Job described the pathological changes associated with nasal deformity in lepromatous leprosy. He concluded that in addition to the generally recognised destructive changes in the cartilagenous septum, there was infiltration and destructive changes in the bony part of the septum, and the small bones forming the wall of the nasal cavity. Dr. Ramanujam reported a follow-up study on 170 patients of Borderline Leprosy, with reference to clinical, bacteriological and immunological aspects. The patients had been under study from about 6 months to over 3 years. A significant finding was the very favourable clinical and bacteriological response while under controlled treatment, the response being quicker than observed in classical lepromatous patients under DDS treatment. He however, stressed the need of a follow-up study on a long-term basis, in order to find out whether the initial favourable results are long-lasting. Dr. Iyer reported on the histological findings, initial and repeated, on the above borderline patients. In the initial findings a background of tuberculoid histology predominated. Adopting the Ridley and Jopling histological classification, the initial findings could be put as BT in about 40% patients, 16% as BB, and 14% approaching BL; while the remaining 30% were arbitrarily classified as BT-BB. Thus the histological structure revealed a great variation spread

over a large spectrum. During follow-up it was found that patients initially presenting BT or BT-BB histology showed the highest number of histological improvement, the percentage of improvement progressively diminishing with BB and BL categories. Dr. Dash described his observations regarding the restoration of sensation in anaesthetic skin in leprosy, and demonstrated an electronic device which is under study for induction of cutaneous sensation.

The Third Session was devoted to 'Medical Rehabilitation including Reconstructive Surgery and Physical Medicine'. In the morning sitting, dealing with Reconstructive Surgery, papers were presented by Dr. N. H. Antia, Dr. H. Srinivasan, Dr. T. Tamai, Dr. W. M. Lennox, Dr. (Mrs.) S. Karat and Dr. Winch on behalf of Dr. Tovey. Dr. Antia described the methods of plastic surgery for leprosy deformities of the nose, loss of eye-brows, lagophthalmos, and facial paralysis. Dr. Srinivasan spoke about the prevention of Neuropathic Plantar Ulcers, specially their recurrence. He emphasised the need for an analytical and dynamic approach, and for each patient with recurrent ulceration to be examined in detail to trace the probable sequence of events since the original ulcer, so that appropriate treatment could be given on an individual basis. He illustrated his point of view by projecting a number of pre- and post-operative pictures from a number of patients. Dr. Tamai pointed out the value and limitations of reconstructive surgery in leprosy. He pointed out that reconstructive surgery was of value, but that it was not always the best method of treatment of deformities. Suitable splints and devices may have a favourable effect comparable to, and sometimes better than, that of reconstructive surgery. Dr. Lennox dealt with the management of advanced deformities in feet and the loss of sensation in hands. Dr. (Mrs.) Karat spoke on the 'Mode of occurrence and healing of fractures in anaesthetic limbs in leprosy'. Dr. Winch, who presented a paper on behalf of Dr. Tovey, described the technique of operation for deformed nose devised by Dr. N. J. Cockett using a skin graft bag as in a posterior nasal inflap, and a columnellar bone graft.

In the afternoon sitting of the Third Session, papers on Physical Medicine were presented by Dr. J. Selvapandian, Shri N. Palani and Shri J. Girling. Dr. Selvapandian emphasised the importance of physical methods of treatment in the prevention of deformity; the simple methods of physical treatment include oil massage, wax bath, gentle passive stretching and splinting. Physical methods of treatment are also essential as pre- and post-operative measures. Shri Palani read a paper on 'Pre- and Post-operative Physiotherapy in the Management of Lumbrical Replacement in Leprosy.' These operations are done for the rectification of the clawing of the fingers. He listed the pre-operative and post-operative aims separately, and then described methods to achieve these aims. Shri Girling discussed the merits and demerits of the two standard designs of the Below Knee artificial limbs—the 'Conventional Prosthesis' with thigh corset, and the 'Patella Tendon Bearing' prosthesis. He also described the criteria to be taken into consideration when prescribing one of the two prosthesis in a particular patient.

The Fourth Session was devoted to Social Work and Rehabilitation. Dr. Hemerijckx, Dr. V. P. Dass, Shri Hebendale and Dr. Sharma spoke on the various aspects of the Social Problem in leprosy, and ways to deal with them. Amongst other things, emphasis was placed on the great need for educating the healthy population regarding the disease. In the sitting on Rehabilitation, Dr. O. W. Hasselblad, Dr. Y. Yajim, Miss Wilson, Shri H. D. Pavri and Mrs. K. V. Nimbkar presented their papers.

Speaking on 'Total Rehabilitation of Leprosy Patients', Dr. Hasselblad brought forward the important point that rehabilitation is a 'process needing co-ordination of skills and services tailored to meet the specific requirements of the individual patient'. He listed the skills and services that would be needed in this 'process' of rehabilitation. Further he laid emphasis on the prevention of disability, integration with existing public health services, and leprosy rehabilitation training to students in all medical, paramedical and ancillary professions. Dr. Yajima described the rehabilitation activities in Japan;

he stated that systemic medical treatment has made social rehabilitation possible, but that much effort was yet needed to persuade the public to accept the cured patients. Miss Wilson presented the details of an 'Experiment in Agriculture' in progress at the Schieffelin Leprosy Research Laboratory, Karigiri. Shri Pavri emphasised the need of vocational evaluation in vocational rehabilitation. This means the screening of the patient regarding his skill, ability, education and aptitude, etc., before training him for a particular job or profession. Mrs. Nimbkar developed on the 'Role of Occupational Therapy in Rehabilitation in Leprosy'. The occupational therapist has an important role to play in the team approach for total rehabilitation of the patient. The greatest challenge to the occupational therapist is from the patients with severely deformed hands, and the occupational therapist must devise special equipment, so that the patient can really look after himself. At the conclusion of the Session, the Chairman requested Shri Amte of Warora to give a brief description of the excellent rehabilitation work that he has been doing. The audience heard the brief account of his pioneer work with rapt attention, and at the end of his address he was given a standing ovation.

In the Concluding Session Dr. Dharmendra summed up the Seminar, Col. R. R. Rao, Deputy Director General of Health Services, Government of India, and Dr. D. N. Sharma, Director of Health and Medical Services, U.P., made speeches proposing votes of thanks. The Concluding Session was also addressed by some foreign delegates, Major General C. K. Lakshmanan, Hon. Secretary, Hind Kusht Nivaran Sangh, Dr. R. V. Wardekar, President, Indian Association of Leprologists, and Dr. P. N. Khoshoo, Director, National Leprosy Control Programme, Government of India. In summing up the Seminar, Dr. Dharmendra highlighted the salient features of the various Sessions, and complimented the participants for the high standard of presentations and discussions. The deliberations at the Seminar indicated that during recent years there has been appreciable

progress in our knowledge with reference to some basic factors regarding the disease, and in controlling the spread of the disease. The recent work on DDS and BCG prophylaxis against leprosy appears to have marked a breakthrough in the field of controlling the disease though much further work in this field remains to be done. He paid tributes to the scientific workers, as also to the field workers, both medical and para-medical, who, he said, were the most important tools in the National Leprosy Control Programme.

### ELEP

The first General Assembly of the members of ELEP (the Co-ordinating Committee of European Voluntary Agencies engaged in the fight against leprosy) took place in Wurzburg, Germany, on January 7th and 8th, 1967. Representatives from 11 different member-organizations were present, from Belgium, France, West Germany, Switzerland, Great Britain, Italy and an observer from Spain. Applications for membership from bodies in Luxembourg and Turkey were approved.

The Medical Commission, consisting of Drs. L. P. Aujoulat, S. G. Browne, M. Gilbert and F. Hemerijckx, had met previously to consider a lengthy agenda of items on which their advice had been sought. It seems that the Commission will be increasingly consulted by the General Assembly in respect not only of schemes already in existence but also of proposals for new projects to be undertaken by one or several of the member-organizations.

The General Assembly of ELEP recommended to its member-organizations that they should between them make a grant of 5,000 \$ U.S. towards the expenses of the Ninth International Leprosy Congress to be held in London from 15th to 21st September, 1968. The Assembly also recommended that a total of 12,000 \$ U.S. annually should be raised between the member-organizations to enable the Leprosy Study Centre, London, to engage a full-time histo-

pathologist and a laboratory technologist. Continued interest was shown in the dapsone-prophylaxis scheme being supervised by the staff of the Leprosy Research Institute at Chingleput, South India.

Reports were made on certain aspects of leprosy work in Korea, Morocco, India, the Republic of Congo (Kinshasa).

Dr. Gilbert was asked to report on proposals for leprosy work in Morocco; Dr. Hemerijckx will investigate the possibilities of a leprosy control scheme in South India. Correlation of the teaching programme of A.L.E.R.T. (Addis Ababa) and the Institut Marchoux at Bamako (Mali) will be attempted by Drs. Aujoulat and Browne. Very cordial non-official contacts with those in charge of leprosy on the headquarters staff of the World Health Organization had been instituted.

An interesting indication of the changing emphasis apparent in the work of voluntary organizations is shown by the recommendation (which was heartily agreed upon), that an appreciable proportion of the budget of the member-organization should be ear-marked for research. The philanthropic public that contributes large sums of money for the relief of individuals suffering from leprosy, is becoming cognisant of the need to supplement government and academic institutions in research into this disease.

The Brussels bureau will act as a clearing-house for doctors wishing to work in leprosy and organizations having vacancies for such doctors in institutions with which they are connected. Doctors and member-organizations are requested to get into touch with the Secretariat and supply full particulars of their requirements. (Address: ELEP, 106 rue Stévin, Bruxelles 4, Belgium.)

The spirit of mutual helpfulness pervading these meetings, in both their scientific and their humanitarian aspects, augurs well for future working together in the fight against leprosy.