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LEPROSY ERADICATION BY 2000 A.D.

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ELIMINATING LEPROSY

LEPROSY, a scourge as old as mankind, is associated with social stigma. The estimated prevalence of leprosy in the world was 12 million cases, of which four million was in India (1985). Indeed, leprosy can be eliminated as a public health problem by the end of the century provided that funds can be found to diagnose and cure the patients over the next six years, says the World Health Organization.

The Government of India had launched the National Leprosy Eradication Programme in 1983 with the objective to eliminate leprosy as a public health problem by the year 2000 A.D.

Mahatma Gandhi's martyrdom day—30 January—is also observed as the Anti-Leprosy Day in India to rededicate the governmental efforts towards achieving the goal of leprosy elimination by 2000 A.D.

Keeping this in view this issue of *Swasth Hind* is devoted to:

ANTI-LEPROSY DAY—1994

SWASTH HIND WISHES ITS READERS A VERY HAPPY NEW YEAR

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In this issue

Articles on health topics are invited for publication in this Journal.

State Health Directorates are requested to send in reports of their activities for publication.

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TREATMENT, PHYSIOTHERAPY, RECONSTRUCTIVE SURGERY AND REHABILITATION IN LEPROSY

—An overview

Dr N. S. Dharmshaktu

The Government of India has accorded high priority to the National Leprosy Eradication Programme. Multi-drug Therapy (MDT) services are being extended in a phased manner in endemic areas taking district as a unit. Physiotherapy is an essential part of physical and surgical management of leprosy. The need for reconstructive surgery can be reduced to a great extent by proper education of the community for early diagnosis and proper treatment by stressing on treatment regularity and by education of patients as to how to deal with anaesthetic hand and feet, says the author.

In 1981 about 12 million leprosy cases were estimated in the world, out of which 4 million *i.e.*, one thirds of the total world problem was estimated in India alone. In 1991 the estimated case load in India has reduced to 2.5 million against which 1.4 million leprosy cases are on record as on March, 1993. 15 to 20% of leprosy cases are in the age group of below 15 years, 6 to 12% of cases have deformities, about 20% of cases are infectious and the male, female ratio is 2:1. The problem of leprosy is aggravated by unjustified social stigma and prejudices attached to the disease and the deformities occurring due to negligence. The highest number of leprosy cases is now in the State of Bihar followed by Uttar Pradesh, West Bengal, Madhya Pradesh, Andhra and Orissa.

Government of India started National Leprosy Control Programme in 1955 with the objective to control leprosy. Dapsone was the only treatment available till recently and prolonged regular treatment was required with Dapsone as a result of which many patients could not take the drug regularly. This resulted into appearance of many dapsone resistant cases. Based on scientific advancement in treatment of leprosy and experiences with large scale field research with Multi-drug therapy (MDT), World Health Organisation suggested MDT as a main drug for treatment of Leprosy in the year 1981. The Government of India renamed National Leprosy Control Programme as National Leprosy Eradication Programme (NLEP) in 1983 and gave high priority by making it a 100% Centrally Sponsored Scheme. The objective of NLEP is to eliminate leprosy by the year 2000. It is estimated by WHO that if the patient load is decreased to a level of below 1 case for every 1000 population the disease transmission will be broken. The National Leprosy Eradication Programme has been included in 20 Point Programme. The infrastructure available in districts with 5 or more cases per 1000 includes District Leprosy Unit, Leprosy Control Unit in rural area (1 for each 4-5 lakh population), Urban Leprosy Centre (1 for 50,000 population), and a Temporary Hospitalisation Ward. In low endemic areas also such units and Survey, Education Treatment (SET) Centres have been created to cover endemic pockets and support General Health Care infrastructure.

At the National level an Apex level institute, *i.e.*, Central Leprosy Teaching and Research Institute has been established at Chengalpattu in Tamilnadu. Three Regional Leprosy Research & Training Institutes have also been established namely at Aska (District Ganjam) in Orissa, Raipur in Madhya Pradesh and Gouripur (Dist. Bankura) in West Bengal. Thirteen Leprosy Rehabilitation Promotion Units

have also been established in different regions of the country. A total of 49 Leprosy Training Centres have been created under the programme which include four directly under DGHS, Ministry of Health and Family Welfare, Govt. of India; one under ICMR, 14 under Voluntary Organisations and remaining under the various State Governments.

The Government of India have introduced multi-drug therapy scheme in 135 endemic districts upto the end of 1992 in a phased manner since 1982 through full time specially trained staff. MDT was also started in remaining 66 endemic district on a modified pattern from 1991, but now it has been decided that all these 66 districts will be covered on vertical pattern from 1993 and 18 of these endemic districts have already been covered on vertical pattern in January 1993. 77 Districts having prevalence of leprosy between 2 to 4.9 per 1000 population will be covered on modified pattern of MDT from 1994. The endemic pockets in all the remaining low endemic districts of the country (having prevalence less than 2) will also be covered on Modified pattern of MDT through 20 Zonal Offices. Instructions have also been given to States (from 1993) to provide MDT to the patients in all the low endemic districts also through general health care staff.

Objectives and Strategy

The Government of India has accorded high priority to National Leprosy Eradication Programme. The objective of the NLEP is to arrest the disease activity in all the known cases of leprosy by the year 2000. The strategy of the programme is

(i) to provide leprosy services through separate infrastructure in the area where problem of leprosy is 5 or more for every 1000 population.

(ii) to provide leprosy services in areas with less case load through existing general health care infrastructure and supportive leprosy units.

(iii) Extend MDT services in a phased manner taking district as a unit.

Information about Multi-drug Therapy

1. *What is MDT*

It is a combination of anti leprosy drugs prescribed for treatment of leprosy which results into complete cure of the disease within much shorter period than monotherapy.

2. *Places where MDT is available in India*

(a) In 135 endemic districts having case load of 5 or more per 1000 population; MDT is available at every Leprosy Control Unit and its field clinics in rural areas and at urban Leprosy Centres, temporary hospitalisation wards and other hospitals in urban area.

(b) In 66 endemic districts MDT is available at all the health centres such as hospital, community health centres, PHC, Sub-centres. These 66 districts are likely to be followed on the pattern of 135 districts mentioned above in near future and in fact sanction has been issued in January 93 to run MDT in 18 of these districts on vertical pattern.

(c) In all other districts MDT is available for leprosy patients in all hospitals, community health centres and PHCs. In certain areas where specific leprosy units have been created under the Government sector or the voluntary sector they also provide MDT services.

EMBLEM FOR LEPROSY ERADICATION PROGRAMME

NLEP emblem symbolises beauty and purity in lotus; Leprosy can be cured and patient can be a useful member of the society in the form of a partially affected thumb, a normal finger and the shape of a house; the symbol of hope and optimism in a rising sun. The emblem captures the script of hope and positive action in eradication of leprosy.

SIGNS AND SYMPTOMS OF LEPROSY

One should suspect leprosy if any of the following signs are present on the body:

(a) A discoloured patch on skin with partial or complete loss of sensation to light touch and prick over the patch.

(b) Numbness in hand and feet (This is accompanied by thickening of peripheral nerves which can be confirmed by the Health worker).

(c) Multiple, smooth ill defined red spots or patches on the face, buttock, back or other parts with or without loss of sensation.

3. *Do every patient having leprosy need Multi Drug Therapy*

All leprosy patients do not need multi drug therapy. Many persons having leprosy particularly with least number of germs or no germs in the body may have taken Dapsone in past regularly. Such patients may have already been cured and will require no multi drug therapy.

Patients with least germs or no germ in the body are curable with Dapsone alone if taken regularly for 3 to 5 years. If the treatment is taken irregularly or stopped in between such patients may sometime develop resistance to Dapsone showing no improvement in the course of disease. Therefore, Government of India has made a provision of free multi drug therapy for all previously untreated, incompletely treated and Dapsone resistance patients (not responding to Dapsone), even though the cost of multi drug therapy is very high. Hence if you are suffering from the disease and you have taken Dapsone monotherapy earlier, consult the doctor to confirm whether or not the person need a course of Multi drug Therapy.

4. *The required duration of multi drug therapy*

The patients are broadly divided into two categories—

(a) Those patients with multiple germs in their body (MB type): Such patients require a minimum of 2 years multi drug therapy regularly.

(b) Those patients with minimum or no germs in their body (PB type). Such patients require multi drug therapy regularly for a minimum period of 6 months.

HOW CAN ONE HELP NATIONAL LEPROSY ERADICATION PROGRAMME

Any common citizen including the patient and his family members can be very useful to leprosy programme by helping in following ways:

(a) Cooperate with the health workers in his programme activities.

(b) Educate yourself about facts of leprosy and help in educating your family and community.

(c) Accept leprosy patients in the family and in the community like a patient of any other disease and help them to lead a happy life.

(d) Help in dispelling the stigma and prejudices against leprosy patients in the society.

(e) Leprosy should not come in the way of an individual for marriage, employment and education of children in the school.

(f) Teach people that deformity which has already developed in a leprosy cured person is not a disease. It is just like post scars on the face of a person who had suffered from smallpox many years ago.

(g) One should know about activities of Government and voluntary organisations and motivate persons having early signs of the disease for early treatment. □

Most of the patients get cured within the above duration if they are treated with multi drug therapy. Only a few patients who do not get completely cured within the above duration with MDT may require extended period of treatment as advised by the Doctor.

5. *Omissions upto what period is permissible for taking multi drug therapy*

(a) The patients with multiple germs in the body (MB type) must complete their 24 months course of multi drug therapy within 36 months.

(b) The patients with minimum or no germs in their body (PB type) must complete the course of their 6 months multi drug therapy within a period of 9 months.

One must however, try to avoid omissions in taking multi drug therapy as much as possible.

6. *How important is skin smear test for multi drug therapy*

It is useful to cooperate with the Doctor/Health worker when the same is desired by them and it is sometime very helpful for deciding the classification and type of treatment required. However, it is not always necessary for the Doctors/Health workers to have this test done for starting treatment for every type of patient.

7. *Is WHO/GOI recommended multi drug therapy (MDT) as the best combination available for treatment of leprosy today?*

Yes, it is the best combination available today, as proved by its success achieved in large number of cases in various countries. These drugs are given in tablet and capsule form and not in form of injection.

Deformity—its Prevention and Care

About 7 to 12% leprosy patients have deformity. Since 80% of Indian population live in rural areas, the study based on deformity in rural areas may be helpful to understand the extent of deformity in leprosy. One such study conducted in rural agricultural community by S. Kartikeyan (1991) in the Latur district of Maharashtra showed that 12% of leprosy patients have deformity of Grade II above. This report is based on study of 1338 male/female patients. The deformity was found highest, *i.e.*, 24.4% in patients of age group 50 years and above. In the middle age group 30 to 49 years 11.04% patients had deformity and in the younger age group between 15 to 19 years 4.61% patients had deformity. The deformity mainly affects hand, foot and eyes.

How can disability be prevented in Leprosy

Disability including loss of sensation and paralysis in foot, hand and other parts of the body can be prevented in leprosy by :

(a) Reporting early for diagnosis.
(b) Starting proper treatment early before the nerves are damaged.
(c) Completing treatment regularly for prescribed period.
(d) Prompt recognition of signs of reaction, its primary management and reporting to the health centres early.
(e) Keeping knowledge of danger signal of leprosy reaction involving nerves and eyes.

Learning exercises of Hand, Feet and Eyes : All patients/cured persons, with weak or paralysis muscles of hand, feet and unable to blink (close eyes) normally should learn some specified exercises. If they have any difficulty to understand to do these exercises they should consult the leprosy staff during monthly collection of the drug or whenever leprosy staff/ general health care staff visit the village.

Drug Delivery point in a Village in an Endemic District under Multi-Drug Therapy

Role of Physiotherapy

Physiotherapy is an essential part of physical and surgical management of leprosy cases. It helps in preserving the physical functions of the affected muscles and in preventing muscle atrophy. It also helps in improvement of nerve conduction in case of impairment in nerve conduction. Therefore, during the period of paralysis, muscle activity should be maintained. If patient has already developed muscles paralysis still they should report to the proper health centre early for physiotherapy. Physiotherapy involves assessment of nerve and muscles function, passive movement, massage, wax bath, ultra sound diathermy, electrical stimulation and splinting. Physiotherapy services are available at most of leprosy control units, THWs, Centres where MCR chappal are available, with major Voluntary Organisations and at CLTRI, RLTRIs, CJIL & many of its Leprosy Control Units.

Role of Reconstructive surgery in Correction of Leprosy Deformity

The need for reconstructive surgery can be reduced to a great extent by proper education of the community for early diagnosis and proper treatment by stressing on treatment regularity and by education of patient how to deal with anaesthetic hand and feet. Adequate time is given for a definite trial of medical treatment and physiotherapy before considering a patient for surgery. The most paralysed muscles regain function if proper management of reaction is done. For successful reconstructive surgery pre and post operative cooperation of patient is essential. Thus surgery should only be done if the patient is not responding to medical treatment and physiotherapy, the condition is operable and if the patient is willing to cooperate. Use of Clofazimine in leprosy with its double action on management of reaction and treatment of disease has reduced the need for surgery.

Aids and Appliances helpful to Leprosy Patients/Cured Persons with Disability and Deformity

(a) *Footwear :*
  (i) MCR Chappal (for anaesthetic foot)
  (ii) Below knee orthosis for drop foot
  (iii) Moulded shoe for ulcer patient and deformed foot.

(b) *Simple walking aid :*

(i) Cane } For patient with ulcer and anaes-
(ii) Cruches } thetic foot.

(c) *Prosthesis (Artificial limb) :*

(i) Below knee prosthesis (artificial leg such as Jaipur foot, Madras foot, ALIMCO SACK foot for patient with below knee amputation). This is a common prosthesis in leprosy patients with amputation.

(ii) Above knee prosthesis (artificial limb)—It is not generally required for leprosy patients as above knee amputation is extremely rare in leprosy.

(iii) Cosmetic finger prosthesis

(d) *Grip aids*—It is used for assisting in activities of daily living such as eating, combing, holding utencils, etc.

(e) *Splints :*

(i) Cock-up splint (for wrist drop)

(ii) Drop foot splint (for drop foot patients)

(iii) Other functional splints (for fingers and thumb).

(f) *Eyes :*

(i) Protective glass for dry eyes and logophthalmos (Inability of blinking or closing of eyes).

Rehabilitation

Maximum benefit of disability reduction in India has been due to expansion of MDT Programme but MDT alone is not sufficient for actual control of human suffering due to leprosy. 15 to 20% of people who have or had disease have disability and are taken as risk group for developing injury, wounds, ulcer and deformity. Early detection of such disability, proper education of the patient, care of ulcer and wounds, early management of reaction, provision of MCR chappal and other footwear emphasising on self care and proper rehabilitation are important to provide relief. Though many voluntary organisations are providing such need based care and rehabilitation services to the leprosy disabled and handicapped persons but it is not sufficient in view of magnitude of the problem. Some of the voluntary organisations are providing excellent services for such human sufferings.

Leprosy Patient attending an Urban Leprosy Centre Covering about 50,000 Endemic Population

Beside expansion of treatment with MDT, other measures of social, informative and administrative character should also be given importance. In areas where an effective control has been set up no new case of deformity should occur.

The Ministry of Welfare scheme for employment/self employment of leprosy affected cured persons gives an operable definition of leprosy handicapped as 'Leprosy handicapped persons are those who are cured/non infectious and have physical and socio-economical handicap'. The rehabilitation benefits reaching to leprosy handicapped is very less in comparison to rehabilitation benefits provided to other categories under various schemes/ provisions of Ministry of Welfare and Labour which may be due to following reasons :

(a) Unawareness of leprosy cured persons about schemes of rehabilitation, deformity care and the places where it is available.

(b) Unawareness of staff at employment exchanges to register leprosy cured persons in the handicapped category.

(c) Criteria of 40% or above disability to level the persons orthopaedically handicapped.

(d) Disinclination of employers to accept leprosy cured persons fit for job in comparison to other handicapped.

(c) Inadequate awareness of leprosy staff, general health care staff about location of centres for registeration for employment of handicapped, about the nearest centre/voluntary organisation providing deformity care and rehabilitation services.

The Government of India has now universally adopted WHO recommended MDT regiment and 14 days intensive therapy has not been found to have any additional advantage due to which intensive therapy is now not recommended. Earlier even with 14 days intensive MDT therapy its side effects had been insignificant. It can therefore, be said that providing daily self treatment at home and only once monthly supervised pulse treatment at clinic is almost risk free so far side effect is concern. Economically also cost of PB case treatment which constitutes 80% of the cases has reduced about three times with modern MDT (cost of MDT for PB is Rs. 51 per patient and with monotherapy Rs. 164) in comparison to monotherapy. Whereas the cost of MDT and monotherapy are almost the same for MB cases, but MDT has many definite advantages including definite cure rate, reduced duration of treatment etc. In view of the above the vertical staff in endemic district should now concentrate more in giving training of self care to each leprosy patient and cured person with disability ranging from first aid, things they should rightly have at home for self care, early detection of reaction and relapse, exercises of anaesthetic feet, hand and eyes, physiotherapy, awareness about the places/centres where MCR chappal and other protective shoes are available. The availability of various schemes/provisions, facilities offered to the handicapped persons by Ministry of Welfare/Labour and various other Government Departments and NGOs should be informed to the handicapped persons indicating the nearest place where they can consult in case of need.

While the category of cured persons with disability (loss of sensation of hand/feet and involvement of eyes) can benefit from self encouragement, increase in knowledge and skills about self care and information on avilability of services, the other category of patients/cured persons with established recent disability/ deformity need care as well as additional proper advice for physiotherapy, exercise, surgery etc. who may also require a definite link with some referral institutes in nearby area which should be well known both to the patients and to the health workers. Wherever such link is lacking there is need to establish them either under Government or under Voluntary organisations.

The third category of cured leprosy persons with major deformity who are totally disabled with

ROLE OF DIET

Some people in remote rural areas still believe that diet has an important role in causing leprosy and in its treatment. It would be worthwhile to clarify the same. Some people still have the wrong feeling that leprosy is caused by eating specific type of fish or dry fish or smoked fish. Combination of hot and cold food (meat/fish/egg with butter milk/curd) is avoided thinking that it will worsen the disease.

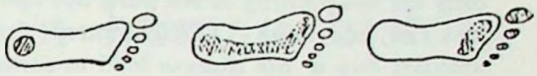
The diet has no scientific role to play in causation and treatment of leprosy. No food is considered hot or cold. Thus, there should not be any fear that any particular food may cause the disease. Normal diet should be consumed during the course of the disease and there is no need to avoid any particular food unless suggested by the Doctor for some other reason.

having absorption of toes and fingers of hand and feet, blindness, etc., are by and large the old people who have no one to look after or those who are thrown from the community and family. The existing mercy homes under various voluntary organisations should continue to take care as it may be very difficult to provide proper care to such persons under government institutions and at the same time such person may not be able to go back to his home and take self care. The services offered by voluntary organisations are generally much more acceptable in comparison to government institutions for the above category 2nd and 3rd type of patients/cured persons, due to dedication of the staff. Existance of such debelitated persons on the roads, near religious places in the form of beggars indirectly increases stigma towards leprosy. □

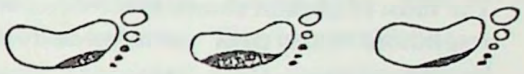
How Deformity Increases Injury

Normally while walking the weight of the body is spread up to two thirds of the entire sole of foot at any time. If a patient has loss of sensation as well as deformity of the foot (claw toes or dropped foot), the weight of his body may be concentrated over a smaller area. This will result in formation of spots of increased pressure on his soles and wounds are likely to develop at those spots.

A. In Normal Foot Print : (Right Foot)



B. In Foot Print of Dropped Foot : (Right Foot)



C. In Foot Print of Claw Toes : (Right Foot)

High pressure area

Normal people also sometimes get burns, cuts, abrasions on their foot due to the negligence or by accident. Because of the pain they immediately take treatment and rest as far as possible. But people with loss of sensation on foot when get such injuries they continue to walk because they do not feel pain. If a misfit shoe is used or if the shoe has pointing nail touching the sole it also causes the injuries. Such injuries are prone to catch infection early.

Start by listening

Spreading the word about what people should do to be healthy is important. But this is not enough. We have to understand that, in many situations, it is not only the individual who needs to change. There are other things that influence the way people behave : the place in which they live, the people around them, the work they do, whether they are able to earn enough money—all these things have a great influence, and we must take them into consideration. Our first effort must be therefore to listen, to learn, and to understand.

—*Education for health : a manual on health education in primary health care.* Geneva, World Health Organization, 1988, p. 1. Δ

LEPROSY—A FEW FACTS

- ☐ Leprosy is a communicable disease caused by a germ known as *Mycobacterium leprae*. The disease mainly affects skin, nerves and mucous membrane.
- ☐ The disabilities caused by leprosy are mainly damaged limbs and eyes, and this affects not only the functioning of the parts but also causes loss of sensation. Disfigurement and disabilities due to the disease lead to serious psychological, economic and social problems for patients and their families.
- ☐ The most important source of infection is by the respiratory tract from an untreated case of leprosy.
- ☐ Not all persons infected with the leprosy germ develop the disease. Resistance or immune mechanisms in most people are able to prevent the occurrence of physical manifestations of the disease.
- ☐ Leprosy affects all ages and both sexes.
- ☐ If the disease is not treated with the appropriate combination of drugs, the disease worsens causing progressive and permanent damage to skin, limbs and eyes.
- ☐ Control of the disease, based until the early 1980s on treating patients with *Dapsone*, became quite ineffective mainly because of the emergence of drug resistance to the use of the single drug.
- ☐ The excellent opportunities available for eliminating leprosy as a public health problem must be seized now, so that future generations can live in a "Leprosy-free" world.
- ☐ The most important development in leprosy control in recent years has been the use of a combination of anti-leprosy drugs known as multi-drug therapy (MDT), as recommended by WHO. Since the introduction of MDT in the early 1980s, the global burden of leprosy has been reduced by more than 60%.
- ☐ Over the past 10 years, more than 4 million leprosy patients have been cured by MDT and about 1 million patients are expected to be cured every year.
- ☐ The treatment with MDT is remarkably effective, of reasonable cost and acceptable to all leprosy patients.
- ☐ For the less serious forms of leprosy known as paucibacillary leprosy (PB), the treatment consists of administering a combination of *Rifampicin* monthly and *Dapsone* daily for only six months. For the more serious form known as multibacillary leprosy (MB), the treatment consists of administering a combination of *Rifampicin* and *Clofazimine* monthly and a combination of *Clofazimine* and *Dapsone* daily for two years.
- ☐ Currently there are an estimated 3.1 million leprosy patients in the world, of whom 2.3 million are registered for treatment. These patients are largely spread over 87 countries in Asia, Africa and Latin America where about 6,00,000 new cases are detected annually. Approximately 2400 million people live in areas considered endemic for the disease.
- ☐ WHO estimates that there are 2-3 million former leprosy patients needing care for disabilities as a result of leprosy.
- ☐ The introduction of MDT has led to revolutionary changes in leprosy control with some countries demonstrating an up-to-ten-fold decrease in disease prevalence within five years.
- ☐ The optimism that developed as a result of MDT led the WHO to aim at eliminating leprosy as a public health problem by the year 2000.
- ☐ WHO plays a worldwide role in promoting MDT, coordinating resources and monitoring the leprosy situation closely, in addition to building national capabilities to carry out leprosy elimination programmes. WHO has also been investing in research to develop still more effective drug combinations for treatment.
- ☐ In its efforts towards eliminating leprosy, WHO works in close collaboration with international non governmental organizations such as the Member Associations of the International Federation of Anti-Leprosy Associations (ILEP), and agencies such as the Sasakawa Health Foundation and the World Bank. ☐

—W.H.O.

Feature

Eliminating Leprosy as a Public Health Problem

—A unique opportunity in human history

The elimination of leprosy is technically feasible, financially acceptable and viable. And the problems raised by it are of an operational nature. The international community, W.H.O. and the various NGOs have clearly expressed their intention to banish this scourge which has afflicted humanity for too long.

WE have never come so close to seeing leprosy defeated. This ancient disease that still afflicts millions of people physically and socially can now be vanquished. In 1991, the Member States of WHO declared their intention to eliminate leprosy as a public health problem in view of the very encouraging results of 10 years of intensive use of an effective course of treatment based on a combination of medicaments, known as multidrug therapy. That same year, a Working Group on Leprosy outlined the strategy for elimination of the disease. In 1991 and 1992, the most affected countries and WHO Regional Offices discussed the practicalities of this strategy and prepared national and regional plans. In July 1993, the Leprosy Working Group and the main Non-governmental Organizations (NGOs), met to assess the progress that had been made, adopt a global strategy and bring the requisite resources into play.

But how can this be brought about? Is it really possible to conquer a disease that has afflicted humanity since time immemorial? It is no simple matter, since leprosy is an insidious, slowly-developing disease whose transmission path is not well known and which flourishes mainly in the 'poverty belt' of the globe. It once affected every continent and it has etched a terrifying image in history and human memory, of mutilation, rejection and exclusion from society. Leprosy has always and everywhere been regarded as a special disease. In our day, though we know that leprosy is caused by a bacterium—indeed, it was the first bacterium identified in the history of medicine—it still inspires fear, even in countries where it no longer exists. *Mycobacterium leprae,* the bacillus responsible for leprosy, is a strange and archaic germ. It proliferates slowly, is transmitted by mechanisms that are not fully understood, and it cannot be cultured in laboratories. It enters the body discreetly, provoking no violent symptom that would betray its presence. It multiplies insidiously for years, infiltrating skin and nerves before causing irreversible damage by destroying nerves, leading to paralysis and mutilation. This bacillus, which is very well adapted to man, probably its only reservoir, does not need to infect many people in order to survive, and makes do with a small proportion of the population; in fact, some infected individuals harbour enormous quantities of bacilli, up to 1000 billion, which is quite sufficient to ensure transmission and therefore survival of *Mycobacterium leprae.* How, then, can this enemy, which is usually hidden, be destroyed?

"Multi-drug" pressure

What seemed impossible 10 years ago became a reality with the appearance and wide distribution of a simple and relatively inexpensive course of treatment; it is well tolerated and accepted by patients

2—14 DGHS/ND/93

and it is highly effective. It rapidly cures patients, interrupts transmission of the disease and therefore makes its elimination a possibility. And yet, for this to be achieved, the vast majority of existing patients must be diagnosed and treated, and new cases appearing must be given immediate treatment. Furthermore, since the disease has a relatively long incubation period, this strategy must be followed up for a number of years; we have to keep up a "multidrug pressure" on the reservoir of bacilli, if we are to have a chance of destroying it.

It is because of this opportunity that leprosy must be given high priority in a world that faces many problems. All the work and resources put in will bear fruit in the short term. Over and above the satisfaction of seeing leprosy disappear, communities will no longer need to look after people who are handicapped, often for life. The cost of the leprosy elimination programme will quickly be offset by the number of handicaps forestalled, and by the saving of many people from moral and social harm.

The situation today and how multidrug therapy (MDT) is used in endemic countries

Ten years after the development of MDT regimens, the results seem good. To take a few figures: 10 years ago, the estimated number of cases was 12 million, less than a third of whom received dapsone treatment, which often continued throughout life. Today more than 4 million patients have been cured by MTD, the estimated number of cases requiring treatment is 3.1 million, and more than a third of them are undergoing multidrug therapy. In other words, use of MDT has reduced leprosy by 75% in 10 years. The treatment is so effective, that even when applied by health services with little in the way of infrastructure and resources, very few patients relapse or fail to respond to treatment. In addition, it is practically certain that, if it is used properly, the treatment will not create resistant strains of bacteria such as we find in other diseases. Progress has indeed been considerable, but the road is still long and we must redouble our efforts. Each year, more than 600 000 new cases are diagnosed. Eighty-seven countries are regarded as endemic, and 25 of them are badly affected. In all those countries MTD has been employed; the problem now is to provide and, above all, maintain nearly 100% treatment coverage. Sadly, it is estimated that 2-3 million people have been seriously handicapped by leprosy, and the only way to prevent this unacceptably high figure from further rising is by providing timely treatment for leprosy patients.

WHO's objective: less than 1 case per 10,000 population

"Leprosy cannot be eliminated unless we increase multidrug therapy coverage to a level exceeding 85%, and keep it there for 4-5 years", says Dr Noordeen, Chief of the Leprosy Unit at WHO; "coverage at present stands at around 50%, which is too low to break transmission. We must redouble our efforts, especially since the hardest part is ahead. It will be increasingly difficult, and expensive, to reach the patients who have not had treatment, since we can assume that the most accessible regions and most compliant patients have been covered first by health programmes".

In numerical terms, the picture is clear: health services throughout the world will have to diagnose and treat between 6 and 7 million cases of leprosy by the year 2000. It is estimated that the additional resources required to do this will be of the order of US $ 420 million, US $ 140 million of which will be spent on the drugs alone. The WHO global strategy is based on five elements: the formulation of national, regional and global action plans for elimination; the mobilization of resources for intensive application of MTD in priority countries; epidemiological surveillance and evaluation of results; basic and operational research; and strengthening of national capacity for leprosy control.

The strategy is put into practice by the Working Group on Leprosy. It is convened each year by the Director-General to analyse the situation and decide on action to be taken for the coming year. The countries and regional offices that have to deal with the highest endemic levels have prepared detailed plans. National, regional and interregional meetings have been organized to discuss the measures to be taken. The governments concerned, the bilateral and multilateral cooperation agencies, the main NGOs and WHO have been keeping in touch to ensure that all the necessary resources are available. At the same time, action has been taken to improve epidemiological monitoring of the disease and to assess the impact the programmes are having. Regular evaluations have been organized in the worst affected countries. A programme for decentralized training of personnel through a global network of facilitators exists, and a special group has been set up to promote and initiate operational research in zones or countries which are encountering special problems. Naturally, basic research will continue with the short-term aim of developing alternative treatment regimens that are even more effective and easy to use. To this end, WHO is coordinating trials in many centres throughout the world involving about 5000 patients and over 200 researchers. Immunological research has been conducted in order to devise methods for protecting the population at risk. National and international NGOs are taking special care of handicapped patients and increasing community awareness towards the disease.

How to eliminate leprosy and at what cost

Let us consider the situation more closely. The South-East Asian Region of WHO is the worst affected. India, Indonesia and Myanmar account for 70% of all the cases in the world. Half of the sufferers benefit from MTD, and the control programmes already operating are all aiming at increasing MDT coverage. In that Region, the elimination process is determined by the large number of patients to be treated. The governments of those countries have made elimination of leprosy a priority and have mobilized the requisite resources. The World Bank and various NGOs have given the programmes forthright approval and support. In spite of considerable difficulties, the results are encouraging.

In Africa, the second most affected area, the situation is more difficult for the moment. The AIDS epidemic, the resurgence of the major tropical diseases, weaknesses in health infrastructure, social unrest and armed conflict make leprosy elimination seem like a luxury, an impracticable one at that. Yet there is every reason to be optimistic about the leprosy situation. The disease was severely curtailed by control campaigns based on dapsone from the 1960s to the 1980s, and it is on the retreat in all countries. Fortunately, there is no sign that the AIDS epidemic has an impact on incidence of leprosy, as is happening with tuberculosis. Furthermore, after a slow start, most of the countries in the continent are vigorously applying MTD, with constant support from the NGOs. In this way, the African continent has progressed from less than 10% coverage five years ago to over 45% this year. in addition, here more than elsewhere, leprosy control is integrated in the various health systems. Overall, it seems that leprosy elimination is progressing in most African countries. Nevertheless, in Nigeria and Zaire the situation is not so good, and those countries account for 25% of the population, and a third of the cases in Africa. Similarly, most of the Sahelian countries have trouble in giving patients access to treatment. In order to resolve such problems, which could compromise elimination, the countries concerned are joining forces to tackle these particular constraints.

The situation remains worrying in Latin America. Brazil and Colombia are particularly badly affected, and they account for over 80% of cases in that continent. Brazil is reporting increasing numbers of patients, though it is not yet clear whether this is because transmission of the disease is on the increase, because the system for reporting and treating cases has improved, or because of a combination of the two. MTD is not extensively used. However, in 1991, the Government adopted an emergency plan to introduce intensive MTD to the entire country. However, given the immensity of the task, results will not be visible for a number of years. The situation in Brazil explains why the MDT coverage in the American continent is still low, about 30%.

Less is known about the situation in the Eastern Mediterranean Region. Reporting is difficult in that region, where, in general terms, leprosy has an especially negative image. It is known that the disease is highly endemic in Egypt, Iran, Pakistan and Sudan, and a special effort is being made to achieve a better evaluation of the situation in those countries. According to available information, it would seem that MTD is regularly increasing and covers almost half of the reported cases.

In the Europe and Western Pacific Regions, leprosy has been reduced to such an extent that it no longer constitutes a public health problem at regional level. Yet the situation is not so simple, and certain countries, or certain regions in a given country, are still endemic foci. In Central and Eastern Europe, there are sporadic cases; it is impossible at present to tell how many such cases go unreported. In the Western Pacific Region, the fact that leprosy is no longer a public health problem in most countries is very encouraging. Highly endemic countries, such as China and Thailand, have reduced the problem to a negligible level with MTD. However, the disease still causes considerable problems in the Philippines, in some islands or archipelagoes, and in Viet Nam. The situation in countries such as Cambodia and Laos is unclear.

In spite of many obstacles, the idea of eliminating leprosy has made headway and has taken definite shape in many countries, in the space of only two years. The most tangible results, over and above the expression of political will, have been considerable improvement of control programmes in the most affected countries, improvement of epidemiological surveillance, and a systematic approach to solution of the problems. The problems raised by the elimination of leprosy—which is technically feasible, financially acceptable and viable—are of an operational nature. The international community, WHO and the various NGOs have clearly expressed their intention to banish this scourge which has afflicted humanity for too long.—**WHO** □

WHO's GLOBAL STRATEGY FOR LEPROSY ELIMINATION

LEPROSY, a scourge as old as mankind, can be eliminated as a public health problem by the end of the century, says the World Health Organization (WHO), provided that funds can be found to diagnose and cure some 6 million patients over the next 6 years. "US $ 420 million, including US $ 140 million for drugs, are required to meet that target", explained WHO's Dr Shaik K. Noordeen, Chief, Leprosy Unit, at a meeting in Geneva of the WHO Working Group on Leprosy Control. "The required technologies and strategies for leprosy control exist and so now, it appears, does the political will to tackle the issue. We now have an opportunity to solve a major public health problem. It cannot be missed."

Since multidrug therapy (MDT), a combination of three drugs for severe cases and two drugs for milder cases was introduced by the WHO 10 years ago, leprosy has been reduced by more than 60%.

Leprosy, however, still occurs in significant numbers in over 87 countries and territories of Asia, Africa and Latin America. Estimates for 1993 indicate a global total of 3.1 million cases, of which approximately 2.3 million are undergoing treatment. Some 6,00,000 new cases are being detected annually. India alone accounts for 64% of all registered cases. Five countries—Brazil, India, Indonesia, Myanmar and Nigeria together account for 81%.

Leprosy is known for its potential to cause permanent and progressive physical disability. Visible evidence of the disease often leads to intense social stigma and discrimination against patients.

Until the introduction of the drug *Dapsone* in the 1950s, leprosy control consisted mainly of isolating patients. The introduction of *Dapsone* enabled patients to be treated within the community and when this was combined with case-detection and health education, a degree of success was possible. But within 25 years, the disease became resistant to the drug and so treatment became increasingly ineffective. This period of failure and frustration changed dramatically with the introduction of greatly improved treatment through the application of combinations of drugs, known as multidrug therapy (MDT), the standard regimens of which were first recommended by a WHO Study Group in 1981.

The WHO recommendation on MDT is recognized today as a major technological improvement in leprosy control and, in the absence of an effective vaccine, it remains the anchor for controlling the disease. Experience in several countries has demonstrated convincingly that in well-organized leprosy control programmes it is possible to reduce the number of registered patients up to tenfold within a period of five years. As MDT has proved to be highly effective and acceptable, there is every hope that, through early diagnosis and effective treatment, transmission of the disease can be stopped. WHO defines elimination as a "reduction of the prevalence of leprosy to a level below one case per 10,000 population".

The progress is also significative as regard the cost of the treatment. Although MDT involves drugs which are relatively expensive, the treatment periods are much shorter compared with the days when *Dapsone* was used, in some cases, for a lifetime. The average cost of MDT is now about US $ 15 per leprosy patient.

WHO's Working Group on Leprosy Control was established in 1991 to advise on various issues: increasing the participation of leprosy-endemic countries in disease control efforts; increasing support and coordination between various leprosy agencies; improving strategies for dealing with the changing needs of disease control; accelerating the elimination of the disease as a public health problem; and evaluating general scientific developments in leprosy and their future application to disease control.

The Working Group normally consists of 8—10 members from endemic countries and major non-governmental organizations (NGOs). In addition, major donor agencies such as the Sasakawa Foundation and NGOs such as the

(Contd. on Page 18)

Problems due to misconceptions about leprosy

DR W. H. JOPLING

THERE are many misconceptions held by patients, doctors and the general public. Two common ones are : (a) that the disease is highly transmissible, i.e. that it is easily transmitted from person to person, and (b) that it is incurable and therefore inevitably disfiguring. Let us consider each in turn.

(a) The disease is not highly transmissible as over 95% of adults in the world are immune. On the other hand it is highly infectious, and this means that in Leprosy there is a difference between infectivity and pathogenicity. The explanation is that lepromatous sufferers, all of whom are highly infectious *if untreated*, cause subclinical infection in contacts (which can be proven by immunological tests), but less than 5% of those with subclinical infection develop signs of disease. Furthermore, lepromatous patients constitute only about 20% of Leprosy sufferers worldwide. They are infectious by virtue of the millions of Leprosy bacilli which lodge in the upper respiratory tract (nose, mouth, throat, larynx and trachea); many of these are expelled into the surrounding air, especially by sneezing or coughing. These bacilli are within droplets, and one speaks of droplet infection (as in TB). The nonlepromatous types of Leprosy are not infectious. During my work in London I made a study of 20 married couples for over 10 years, and although one partner had the infectious form of Leprosy and had ample opportunity to infect the healthy partner during the months or years before diagnosis, in only one case did a healthy partner develop the disease. This pair were born and bred in Calcutta, and the wife's disease was diagnosed soon after arrival in England. One year later the husband developed a borderline lesion on one arm. This means that he was infected in Calcutta as the incubation period is between 2 and 7 years (usually 3-5 years), and my investigation gave a transmission rate of 1 in 20, or 5%, assuming that he was infected by his wife.

(b) The misconception that the disease is incurable can readily be dismissed, for multidrug therapy (MDT) carries a high cure rate. Another interesting point about MDT is that it renders the patient non-infectious by the end of one week's treatment.

Some Encounters with Misconceptions

1. In 1950, when the Redhill-Reigate district learned the purpose of the alterations being made to their Victorian isolation hospital, a protect group was formed. It took several public meetings and the strong support of the local Medical Officer of Health, Dr. Tom Bingham, who was held in high regard by the community, to carry through the project.

2. At the end of that year I moved into the doctor's house with my family, and although two of my children obtained places in a local school, three years passed before any local children were allowed by their parents to visit the doctor's house.

3. Public misconceptions were also demonstrated in two events involving my patients. The first involved a Maltese male who completed treatment at Jordan and obtained a post in the office of an insurance company in Reigate, only to be summarily dismissed when the manager heard about his medical history. An even more outrageous event affected an Anglo-Indian lady patients who was told by her husband that their two children had been expelled from their London school when the headmistress heard that their mother was a patient at Jordan. Happily, both these unjust acts, prompted by misconceptions, were resolved by diplomacy.

4. Misconceptions by patients can be harmful in many ways, with suicide as the ultimate disaster. An Indian businessman was admitted to Jordan from a distant hospital late one afternoon. That same night he committed suicide, leaving a note stating that he could not face the future.

5. Many doctors have not been taught about Leprosy as undergraduates and can be excused for having misconceptions. On the occasion at Jordan of an official visit by the Redhill-Reigate branch of the British Medical Association, and the visitors had seated themselves in the concert hall, I gave a short talk on the disease in which I explained that skin lesions were mimicked by a number of skin diseases, but being able to find a thickened nerve was the diagnostic clue. I invited members of the audience to come up to the stage to get a closer look at skin lesions and to palpate nerves, but nobody responded to my invitation!

Hopes for the Future

Eradication of the disease must be the objective, and success will depend on victory in a battle on four fronts—the first is earlier diagnosis; the second is wider implementation of MDT; the third is the production of an effective vaccine; and the fourth is the abolition of Third World poverty.

—*Courtesy* : **Kusht Vinashak**
Jan-Feb. 1993.

3—14 DGHS/ND/93

STRATEGY FOR ELIMINATION OF LEPROSY IN INDIA

DR B. N. MITTAL

The objective of the National Leprosy Eradication Programme is to eliminate leprosy as a public health problem by the year 2000. A multi-pronged strategy has been adopted for controlling this disease through reduction in quantum of infection by continuous treatment to break the transmission and thereby reduce prevalence/incidence of the disease.

LEPROSY is a chronic disease associated with social stigma. The estimated prevalence of leprosy in the world was 12 million cases, of which 4 million was in India (1985). Health for All is an objective accepted by World Health Assembly in 1979 following the historic Alma Ata declaration in 1978. The World Health Organisation in 1991 adopted a resolution calling for elimination of leprosy as a public health problem by the year 2000 AD (reducing prevalence to less than one case per 10,000 population).

The Government of India launched the National Leprosy Eradication Programme in the year 1983 with the objective to eliminate leprosy as a public health problem by the year 2000 AD. A multi-pronged strategy has been adopted for controlling this disease through reduction in quantum of infection by continuous treatment to break the transmission and thereby reduce prevalence/incidence of the disease.

Strategy of NLEP as a whole

The main components of the National strategy for elimination of leprosy are—

(a) early detection and regular treatment of patients;

(b) providing multi-drug therapy (MDT) to all the patients at fixed points in or a nearby village;

(c) education of the patients, their families and community to remove disinformation, social stigma and ensure early reporting and accept regular, complete treatment.

Strategy for endemic district with complete vertical set-up

The districts with prevalence of five and more cases per 1000 are brought under regular MDT in a phased manner with a separate cadre of health workers specially trained in leprosy to provide services. MDT was started in 1982 in two districts following the completion of the preparatory phase comprising :

(a) position of infrastructure in the district;

(b) adequate training of staff in MDT operations;

(c) rapid survey to enumerate undetected cases;

(d) screening of all cases to delete cured, left, died cases and regroup others as MB & PB and preparation of individual case cards.

MDT was gradually extended by 1991 to 135 districts, where the disease prevalence was 5+/1000 population. Presently, these districts are at various stages of MDT implementation and provide MDT coverage to 55% of all recorded cases.

Strategy for endemic districts with inadequate infrastructure

Besides these 135 districts where regular MDT is operated, the remaining 66 endemic districts not having adequate infrastruture, were taken up for MDT with modified approach.

The modified MDT approach differed from the vertical programme essentially in the following respects:

(a) the district leprosy units function under the overall charge of the district medical officer;

(b) the leprosy services were delivered through the Primary Health care staff supplemented by leprosy workers to the extent available in the district;

(c) the medical officer of the PHC would be overall incharge of MDT operations in the area;

(d) the treatment points were to coincide with the PHC, the subsidiary health centre, the subcentre, the dispensaries and the hospitals; and

(e) cash assistance was envisaged to leprosy patients for collecting drug from the treatment points with further cash incentives to those completing treatment in time and for reporting of new cases. This is to compensate non-availability of active case-detection and active case promotion for treatment.

It was contemplated that this approach would not only extend the overall cover of MDT benefit, but would also gear the primary health care services towards providing intensive leprosy care, thus promoting the integration of the two in the long run.

Strategy for districts which have completed seven or more years of MDT

Ten out of 135 districts under MDT have completed MDT intervention for seven years. These districts are being adopted for partial integrated services approach.

For this purpose the following models are being tried:

(a) at the field level the strength of para-medical workers is being reduced by 50% and redistributing the area among the remaining workers and services of medical officers and non-medical supervisors at controlling unit level are being diverted to other programmes and the workers are being put under primary health centres. At the district level, district leprosy unit is being retained. Multi-purpose workers would help in identifying suspected cases while health assistants and medical officers would help in confirming the diagnosis and other programme activities.

(b) infrastructure created under leprosy is being retained. However, simple duties in tuberculosis are being given to them in addition to NLEP.

Both the above models are being tried in some of the districts to identify the best alternate strategy for future.

Expected outcome of the future strategy

(In '000)

Year	No. of cases in the beginning of the year	New Cases	Discharge cases		No.ofcases at end of the year
			On MDT	On Mono-therapy or otherreason	
1993	1167	+523	—500	—200	990
1994	990	+370	—450	—150	760
1995	760	+320	—450	—100	530
1996	530	+280	—450	—50	310
1997	310	+240	—380	—20	150
1998	150	+220	—250	—20	100
1999	100	+150	—200	—10	40
2000	40	+120	—150	—10	00

Strategy for future

With the introduction of MDT there is a definite increase in the number of cases released from treatment. Against three million recorded cases in 1985 there are only 1.16 million cases on record at the end of March, 1993. The leprosy situation in the country has recently been analysed with reference to its objectives. On the basis of this analysis following strategy has been worked out to achieve the goal to eliminate leprosy by 2000 AD:

(a) to bring 66 MMDT districts under regular vertical MDT for five years by providing extra manpower by hiring services for five years;

(b) introducing modified MDT in 77 moderately endemic districts with prevalence rate between 2 and 5/1000;

(c) introducing MDT in the endemic pockets of the remaining low endemic districts establishing Zonal set-up to cover pockets in contiguous 5-6 districts;

(d) establishment of an information, education & communication cell at the National Headquarter for proper coordination, planning and guidance on activities related to community awareness;

(e) organisation of short training courses for health personnel within the district through expert teams;

(f) cleaning of registers in the districts with inadequate staff. This will help in speedy implementation of MDT in the districts;

(g) providing ulcer care and disability management services;

(h) adequate provision of footware for the patients with loss of sensation of foot and those having foot ulcers;

(i) community based rehabilitation of leprosy cured persons would be attempted in few selected districts to develop a suitable model. □

LEPROSY
—past, present and future

DR P. A. SOMAIYA DR A. C. URMIL AND DR R.V. AWATE

The success of the National Leprosy Eradication Programme entirely depends on regular operational and epidemiological assessments. Such assessments need to be carried out both at the State and National level and feedback be promptly provided to the reporting units for implementing the remedial measures without delay.

LEPROSY is probably the oldest disease afflicting the mankind about which references are found in our ancient scriptures/vedic writings where it is mentioned as "Kusht Rog". Certain misconceptions about the disease continued to persist for centuries till recent times and were mainly responsible for the social stigma attached with the disease. These misconceptions included the belief that—(1) the disease is highly infectious; one can acquire the infection through mere closeness or contact with a patient, (2) the disease is hereditary and can be passed on from one generation to another and (3) the disease is due to divine curse—a punishment for the past sins. With increasing knowledge about the epidemiology of the disease during the past century or so, these misconceptions have been mostly rooted out, barring in a few orthodox communities in the developing nations which still remain backward socio-culturally.

The major advancements in the field of leprosy include—(1) identification of its etiological agent, the mycobacterium leprae or Hansen bacillus by Hansen of Norway during 1873 (The disease is therefore also known as Hansen's disease), (2) Introduction of sulphone drugs in 1943, *e.g.* Dapsone for its treatment, (3) Discovery of suitable "animal models" for culture of *Myco. leprae* for research purposes, *e.g.*, foot pads of mice, armadillo, nude mice, hamster, and hedgehog, (4) Introduction of Multi Drug Therapy (MDT) during 1981 which has been found more effective, of shorter duration and with less risk of development of drug resistance among *Myco. leprae.* All these advancements have been the main contributory factors leading to the current concept of leprosy eradication by 2000 AD.

Global Scenario

Leprosy is world wide in its distribution although the major concentration of the cases is found in countries of South East Asia, Africa and Western Pacific (92.6% cases). According to one estimate, there were 10-12 million leprosy cases in the world during 1986, out of which the number of registered cases in various WHO regions was around 5.3 million only. It is feared that in general, the number of leprosy cases are on increase probably due to an increase in population and life expectancy and voluntary reporting due to better awareness although a progressive decline in incidence is noticeable in Northern Europe, Japan, Hawaii, USA and Venezuela due to socio-economic development leading to reduction in some "risk factors".

Indian Scenario

Leprosy continues to be a major public health and social problem in India with an estimated 4 million (one third of total leprosy cases in the world) cases. A total of 196 districts, out of 445, in the country, were found having a prevalence rate of 5 per 1000 population or more. No district has been found totally free from leprosy cases. States of Tamilnadu, Andhra Pradesh, Orissa, West Bengal and Union Territories of Pondicherry and Lakshadweep contributed 60% cases. As per official records, at the end of October 1990, there were 2.5 million registered cases, including 0.47 million new cases detected during 1989-90.

Out of estimated 4 million leprosy cases, 20% are likely to be

infectious, 15-20% cases with deformities and 15% cases among children afflicting nearly 1,60,000 children. About two to three lakh new cases are detected every year and about two lakh cases either get discharged as cured or die.

Action Taken at National Level

The availability of dapsone monotherapy prompted the Government of India to launch the National Leprosy Control Programme (NLCP) in 1955 but since it led subsequently to the emergence of drug resistant strains of *Myco. leprae* and their persistence, the switch over was made to Multi Drug Therapy (MDT) involving 3 drugs namely Rifampicin, Clofazimine and dapsone instead of Dapsone along. The efficacy of MDT led the Government of India to redesignate the programme as the National Leprosy Eradication Programme (NLEP) during 1983. MDT has been introduced in a phased manner under NLEP to cover all endemic districts. The necessity of introduction of MDT in a phased manner became essential because of lack of adequate infrastructure, trained manpower for detection of at least 80% of estimated cases besides establishment of a District Leprosy Society considered essential for achieving the aim of eradication. MDT is however also being given to those patients under dapsone monotherapy for 5 years or more but without any clinical/bacteriological improvement.

The infrastructure provided for implementation of the programme included—758 Leprosy Control Units (1 for every 4.5 Lakh rural population), 900 Urban Leprosy Centres (1 for every 50,000 urban population), 6097 Survey Education and Treatment Centres (1 for 25,000 rural population under PHC), 291 Temporary Hospital Wards, 285 District Leprosy Units, 75 Reconstructive Surgery Units, 49 Leprosy Training Centres, 39 Sample Survey with Assessment Units and 13 Leprosy Rehabilitation Promotion Units—by the end of March 1992.

Various International/national voluntary organizations (VOs) are providing support/assistance in various forms. At present, about 285 VOs are actively engaged in leprosy relief services. Information received from 88 VOs during 1990 shows that they were poviding Survey, Education and Treatment (SET) services to a population of nearly 60 million spread in areas with a prevalence rate of 1 to 32/1000 population in different parts of our country with 8.20 lakh cases on their record and 7.61 million under treatment. Some important VOs working in this field are—Swedish International Development Agency (SIDA), UNICEF, Leprosy Mission, DANIDA, LEPRA, American Leprosy Missions, Hind Kusht Nivaran Sangh, Gandhi Memorial Leprosy Foundation, Amici Di Lebrosi (Italy), Damien Foundation, Sasakawa Memorial Health Foundation, Danish Save the child Fund, JALMA (taken over by ICMR in 1975) and German Leprosy Relief Association, Vidarbha Maharogi Seva Mandal etc.

Overall Impact of NLEP/Areas of Concern

An independent evaluation of the programme, jointly carried out by the Government of India and WHO first time in 1986 showed that programme activities were very satisfactory at aggregate level. The third evaluation carried out during 1989 brought out one more encouraging finding that almost 99% patients in rural areas are now accepted in their families. As against targets set during 1989-90 for case detection, bringing them under treatment and discharge after cure, the achievements were 123%, 120% and 104% respectively. In Tamilnadu and Andhra Pradesh the prevalence has already dropped from nearly 12/1000 population to 2/1000 population. However, there remain some areas of special concern, too. For example the scope of existing case detection technology is not adequate to detect a large number of subclinical cases, that is why leprosy is described as an "Iceberg" disease. Non-detection of these cases is a major obstacle in the eradication of this disease at present. Prolonged incubation period (usually 2 to 5 years, may be up to 40 years or more), trouble free signs, *e.g.* anaesthetic patches, lack of physical discomfort during early part of the disease, fear of social ostracism are other reasons, for delay in reporting on the part of the patient. Besides these, there are still many gaps in our knowledge on epidemiological aspects of leprosy. The role of insect vectors in its transmission still remains a matter of suspicion. We also do not know whether there are significant extra-human reservoir of infection.

Further Action Required at National Level

The success of NLEP entirely depends upon two important activities *i.e.* operational assessment and epidemiological assessment which need to be carried out regularly. Operational assessment means (a) efficiency of case detection against estimated cases (b) proportion of cases brought under treatment (c) proportion of cases under treatment who receive full course of drugs and (d) clinical and bacteriological surveillance of cases after cure to detect relapses. Epidemiological assessment means regular monitoring of prevalence and incidence rates. These

assessments should be carried out both at the state and National level and feedback promptly provided to the reporting units for implementing the remedial measures without delay. Leprosy has already been included in our 20 point programme and therefore calls for a concerted and consistent alround effort to arouse public awareness against the disease and to health educate patients, their families and communities concerned on its various aspects with emphasis on the need of its early cure. Rehabilitation of cured patients needs to be promoted through governmental/voluntary efforts to make them economically self-reliant and socially acceptable. The ongoing research in various fields connected with the disease, particularly in developing an effective immunizing agent against it, needs to be boosted up. Besides, greater involvement of mass media to arouse public awareness, lessons on the subject should be included in school text books (Maharashtra and Karnataka have already done it) and more refresher/orientation courses should be arranged for various categories, *e.g.*, doctors, para-medicals, school teachers and other community leaders etc. Various VOs/social workers doing commendable work in this field should be honoured through national awards and provided with financial aid. At present, 100% Central assistance in terms of budget is being provided to States/ UTs which should continue. Similary, although 2000 AD has been earmarked as the target date for leprosy eradication, in view of its long incubation period cases may continue to occur in small number even beyond that date hence the provision for prompt detection and treatment must continue. Lastly, we should not lose the hope regarding its eradication/ cure and remember what an eminent worker in this field, had to say about this disease—

"Greater effort has to be made in making people aware that leprosy is not a contagious disease and leprosy patient should not be isolated. Half a century ago, the fear of leprosy was similar to fear of AIDS that people have today but with the advances in medical science, leprosy is fully curable".

— *Dr. Dato Edward Lawrence (recipient of Gandhi Memorial Leprosy Award 1991)*

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W.H.O's GLOBAL STRATEGY—*(Contd. from Page 12)*

International Federation of Anti-Leprosy Associations, the International Leprosy Association and the International Leprosy Union are represented.

The purpose of the present meeting is to review the leprosy situation and the achievements made towards elimination of the disease through the global strategy and take action to implement the strategy efficiently.

"Eliminating leprosy as a public health problem before the year 2000 is no longer a dream", says Dr Noordeen. "We have the know-how, the determination and the necessary network to achieve this. The strategy developed for this purpose calls for increased focus on the highly endemic areas of the world for case detection and MDT coverage. It also implies better coordination with the various agencies involved in leprosy work and improved participation of the community. The increased resources needed will be used to buy drugs, but also for training, health education and organization of services for delivering MDT to people affected by leprosy."—**W.H.O.** □

ROLE OF NON-GOVERNMENTAL ORGANISATIONS IN LEPROSY ERADICATION —A Questionnaire Study

S. S. NAIK AND DR R. GANAPATI

A questionnaire study on the Role of Non-governmental Organisations in leprosy eradication was conducted by the authors. Out of the 62 organisations who responded, 53 were from South India and only 10 from North India. South India being endemic for leprosy, the international agencies have concentrated their efforts in this part of the country. The number of active patients on the list of NGOs is 76,582 and have a facility of 3,876 hospital beds.

LEPROSY work in India has a rich tradition of involving non-governmental organisations (NGOs), dating back to a period when the government did not have any specific strategy at the mass level for leprosy eradication. Mr Wellesly Cosby Baily, a Scottish school teacher, after seeing the pathetic conditions of leprosy patients in Ambala (now in Haryana State) is reported to have collected donations from his friends and established an organisation in 1874 (after the Norwegian scientist Armauer Hansen discovered *M. leprae),* now known as "The Leprosy Mission". This institution during the past 10 years has contributed significant services to leprosy patients and at present runs 188 leprosy centres and is in collaboration with 34 countries in the world.

Later, on 31 January 1924 another organisation called "British Leprosy Relief Association" (BELRA) was established in London with a view to study the leprosy problem on a scientific basis and institute anti-leprosy work. They approached kings in different states of India and are reported to have collected Rs. 21 lakhs for leprosy work in the country. The main centre of this organisation was situated at the "School of Tropical Medicine" in Calcutta. BELRA is credited with the first survey of leprosy in India, prompted by an attempt to judge the quantum of leprosy work needed and to lay down the foundation of leprosy work in the country. After independence, the organisation was renamed as "Hind Kusht Nivaran Sangh" (HKNS) in 1947.

In 1951, Gandhi Memorial Leprosy Foundation (GMLF) funded by Gandhi Memorial Trust was established in Sevagram. GMLF initiated Survey, Education and Treatment (SET) in leprosy. This pattern was taken up by the government for "National Leprosy Control Programme" in 1955. Several NGOs, national and international are at present supporting this programme now rechristened as the "National Leprosy Eradication Programme" (NLEP). The NGOs in general share about 10% of leprosy work in the country. Strong components in most of their services are hospitalisation and rehabilitation.

Questionnaire Study

Taking advantage of the National Conference of Voluntary Organisations engaged in NLEP which was held in Bombay in September 1991, a questionnaire was sent to various organisations, with the permission of health department of the Government of India

with the object of obtaining the following updated information about their activities : (1) the year of establishment, (2) number of staff, (3) source of finance, (4) major activities, (5) significant achievements and (6) difficulties if any in running the programme. One special question was aimed at knowing attempts if any at integration of their leprosy work with general health services.

Eighty-two organisations responded to the questionnaire, of which 6 were from major funding agencies. Sixty-two organisations were working in field areas as a part of NLEP and 14 were involved in research, training or rehabilitation in leprosy and these were not engaged in routine field work. Some of the institutions did not fill up all the columns of the questionnaire. In these cases an attempt was made to analyse whatever information was available to reach some gross conclusions.

Out of 62 respondent organisations, 53 are from South India and 10 are working in North. The establishment year of these organisations are as follows : 5 before 1950, 9 in 1951-60, 12 in 1961-70, 21 in 1971-80, 15 in 1981-90. The majority of the voluntary organisations, *i. e.,* 84% are in South India and are supported financially by well-known international agencies, and as such they do not have any difficulty to run the programme. South India being endemic for leprosy it is understandable that international agencies naturally concentrated their efforts in this part of the country with the consent of the Government of India. Many organisations *i. e.,* 21 (33%) sprang up in 1970-80 and some more, *i. e.,* 15 (24%) in 1980-90 due to initiation by international agencies and these now seem to run a programme to the standard level.

It is clear that northern part of the country is deprived of the contribution by voluntary agencies. Ten organisations working in North India receive financial support from government and due to irregular and inadequate grant-in-aid their activities are considerably restricted and hampered in their opinion.

The information obtained from the institutions regarding their staff (total 2881) is as follows :—359 medical persons (12%), 1170 paramedical persons (41%) and 1352 others (47%). The ratio of medical personnel to others is 1 : 7 which appears quite adequate.

The financial support, received by these organisations through voluntary contribution is Rs. 731.4 lakhs, Rs. 70.6 lakhs (9%) from national, Rs. 660.8 lakhs (91%) from international agencies. The Government supplies the major bulk of leprosy drugs alongwith grant-in-aid of Rs. 114.3 lakhs.

Activities

Most of the organisations followed NLEP pattern of work and restricted their activities to survey, education and treatment. A few carry out services like tuberculosis work, child welfare, research and training. Leprosy services are offered by way of field work on NLEP pattern (38 rural, 24 urban). Number of active patients on list are 76,582 and facilities of 3,876 hospital beds are existing.

MDT Programme

Most of the organisations initiated MDT programmes 6 years before and the major achievements of their programme mentioned by them are (1) reduction in prevalence rate in their operational area and (2) reduction in deformity rate in newly detected cases. The load of leprosy cases is reduced and thus the quantum of work against existing staff is very low. To keep the staff engaged, a few institutions already have initiated community based rehabilitation, prevention of dehabilitation of leprosy patients by deformity care programme etc. Two organisations extended their NLEP work in nearby taluks.

Sample surveys carried out in some areas under multidrug therapy revealed that though the prevalence rate of leprosy has been reduced to less than 2 per 1000, new smear positive cases still get detected. So the programme can now concentrate more on the detection of new smear positive cases, retrieval of drop out smear positive cases and clinical examination of old arrested smear positive cases under dapsone monotherapy for evidence of relapses.

Integration with General Health Services

Leprosy eradication programme in another decade will be adopting the policy of integration with general health services, though very few *i. e.,* 16 (25%) institutions have thought of integration or make attempts in this direction. The true sense of integration of involving other service programmes in leprosy which does not consist in making just sporadic or patchy attempts is not fully understood by these organisations. However, a few institutions have already succeeded in getting co-operation from non-leprosy agencies for training, medical treatment including surgery, job placement etc. to help leprosy patients and such organisations may offer guidelines for future work.

1. It seems that in northern part of the country, there is a need to enhance anti-leprosy activities through active participation of voluntary organisations during the next decade.

2. Strategy for integration of leprosy services into general health service programmes, has to be defined properly for future guidance of voluntary organisations in leprosy.

3. In view of the decrease of general work-load in the NLEP, SET type of work by NGOs assumes less importance. Emphasis has to be given more on field based disability prevention and correction of deformity of leprosy patients.

4. NGOs may assist NLEP in ensuring regularity of drug intake of smear positive cases along with a drive for proper clinical examination of old arrested smear positive cases who were under monotherapy with dapsone.

5. Such of those NGOs capable of undertaking field-oriented research and training, may need more encouragement till the goal of eradication of leprosy is reached. □

Dr UTON M. RAFEI NOMINATED W.H.O. REGIONAL DIRECTOR FOR SOUTH-EAST ASIA

Dr Uton Muchtar Rafei (Indonesia), was nominated as the Regional Director of the WHO South-East Asia Region by the Regional Committee on 21 Sept 1993 in New Delhi. Dr Uton will succeed Dr U Ko Ko, Regional Director since 1981, on 1 March 1994 after the nomination is confirmed by the WHO Executive Board in January 1994.

Dr Uton, who has been Director, Health System Infrastructure since 1988 in WHO's Regional Office for South-East Asia, joined WHO in 1981 as Regional Adviser in Primary Health Care. In December 1984 he was appointed Director, Health Protection and Promotion. Dr Uton obtained his M. D. in 1963 from the prestigious Airlangga University, Indonesia and commenced his career in public health holding positions of increasing responsibility over the years.

An M. P. H. from Tulane University, U. S. A.. Dr Uton obtained a Diploma in Project Planning and Systems Analysis for Developing Countries from Bradford University, U. K.

A recipient of several awards for his outstanding performance in various academic and professional pursuits, Dr Uton is a member of several professional and social welfare associations and has published extensively in leading technical journals. Δ

COMMUNITY PARTICIPATION IN LEPROSY ERADICATION PROGRAMME

S.K. BHOI

Community participation assumes a very specific meaning in the control of leprosy. Involvement of people will certainly differ from group to group in dealing with the problem. The author in this article discusses the role of some specific groups in leprosy eradication like doctors, teachers, leaders, government officers, nurses, etc.

LEPROSY is a major public health problem in the country. It is a multifaceted problem and it needs multi-pronged attack. If this problem has to be solved, cooperation of everyone in the society is needed and it can no more be left with a selected band of leprosy workers. Indifference towards this disease by the people in general and the intelligentia in particular has damaged the programme to a considerable extent. It is high time to give proper attention to this drawback.

Community participation assumes a very specific meaning in the control of leprosy. Based largely on health education and mass awareness, its goal must be, as Prof. George M. Foster of the Department of Anthropology, University of California, put it "to win the sympathy and tolerance for patients, and to lead a correct understanding of the nature of leprosy itself, particularly that it is a relatively limited threat to the vast majority of community members."

The real objective of community participation is to make the community conscious about a specific problem so that the community will find out its own ways to solve it. By 'Community Participation in Leprosy Eradication Programme', we generally mean a few things, *viz*—

(a) accepting leprosy as a disease like any other common disease and nothing else,

(b) accepting the person cured of leprosy in the family and the society as a normal person,

(c) removing the wrong notions of the people about leprosy by giving correct information as regard to its cause, spread, curability, infectivity, deformity, etc,

(d) persuading the known patients of leprosy for taking regular treatment as advised by the doctors,

(e) giving guidance to the suspicious cases of leprosy to the proper places for diagnosis and treatment,

(f) solving the problems, if any, of the patients or any member(s) of the patients families or relatives and,

(g) helping the leprosy workers in early case detection, treatment and other activities.

It is not that each and everyone in the community will co-operate or participate in the same way and to the same level. The people, according to their own profession, may think of participating in different aspects of leprosy eradication work. Such involvement of the people will certainly differ from group to group in dealing with the problem. A few suggestions for some specific groups are given here.

1. *Doctor:* A general medical practitioner may play a very vital role in NLEP. Common people are usually not aware of the early signs of leprosy. They may not even have any suspicion for it. But a practising doctor can detect early signs of leprosy and treat the patients. He may, however, cooperate in the following ways:

(a) suspect and detect early leprosy cases, if any, from among the general patients while examining them in his dispensary,

(b) treat at least the early leprosy patients,

(c) eradicate fear and remove misunderstandings about leprosy from the minds of the people through casual talks,

(d) giving guidance to the persons coming to him with queries,

(e) keep literature on leprosy (journals, pamphlets etc.) in the waiting room along with other journals.

By following these steps a doctor can help in two ways (i) he can bring hundreds of cases under treatment and (ii) his co-operation would be of great help to all those leprosy patients detected at an early stage who are hesitant in attending leprosy clinics for fear of there being recognised by the people as such.

(2) *Teacher:* Teachers are moulders of young minds who in their tender form can be made to accept new knowledge without inhibitions. Therefore if the teachers are acquainted with the basic scientific facts about leprosy, they may transmit the same to their students and thus they can bring about a healthy change in the attitude of the young generation towards leprosy and its sufferers. A few points are given here suggest how a teacher can participate in NLEP.

(a) teach or discuss the basic facts about leprosy to the students and fellow teachers,

(b) prevent discrimination against a student or a member of the staff just because he has leprosy,

(c) help the leprosy workers in the school-survey,

(d) publish small articles on leprosy in the school magazine.

(3) *Leader:* A leader (not necessarily a political leader) may participate in NLEP in the following ways:

(a) give active help and co-operation in house to house survey for early case-detection, establishing treatment centres, organising health education activities and other programmes in his area.

(b) persuade the patients known to him to take regular treatment,

(c) prevent social harassment to the leprosy patients,

(d) help the patients and member(s) of the patients' families or relatives in solving the problems, if any,

(e) prevent dehabilitation of the leprosy patients and help in rehabilitation.

(4) *Heads of Institutions:* Their participation in the NLEP may be of the following nature:

(a) retain a leprosy patient in his job and give additional help or facilities to him, if necessary,

(b) help in job placement or rehabilitation,

(c) provide resources and help in organising programmes.

(5) *Government Officer:* He may

(a) mould public opinion,

(b) help in establishing different centres as and when necessary, and (c) help in organising programmes and in rehabilitation.

(6) *Nurses:*

(a) they can accept leprosy like any other disease and extend the same nursing and medical care to leprosy patients as she does for others,

(b) encourage the leprosy patients to take regular and adequate treatment,

(c) boost the morale of the patients known to her,

(d) remove the misunderstandings of the people about leprosy during her normal visits to the community,

(e) help in examining the female population as and when possible.

(7) *What all of us can do:*

(a) impart basic facts about leprosy to our family members, relatives and neighbours,

(b) make people conscious about early signs of leprosy so much so that people seek medical opinion on slightest suspicion,

(c) provide information to the people about the available facilities of diagnosis and treatment of leprosy, give necessary co-operation to the leprosy workers during their house-to-house visits for case-detection and in other work pertaining to eradication of leprosy.

(d) accept the persons cured of leprosy in the society as normal persons.

One can participate in many other ways. Let us join our hands and move on in the right direction with open mind to eradicate leprosy.

"Coming together is a beginning,
Joining together is progress,
Working together is success." □

DIET LINK WITH MENTAL HEALTH

Women who eat more fruits and vegetables enjoy better mental health, research at the University College of Swansea in Wales has revealed. Reporting his findings to the British Psychological Society, Dr. David Benton, Reader in Psychology at the university, says a random postal survey showed that women who ate large amounts of fruit and vegetables were less likely to be anxious or depressed. The doctor says this may indicate that an increased intake of vitamins and minerals is linked with better mental health. Alternatively, it could be a case of women with higher self-esteem being more likely to eat fruit and vegetables in an attempt to slim.

But whatever the reason, Dr. Benton could find no evidence that there is a similar link between diet and mental health in men. —*Medical News from Britain*

WOMEN IN INDIA'S DEVELOPMENT

—An Exhibition

Shri Pawan Singh Ghatowar, Dy. Minister of Health and Family Welfare viewing the stall on Women's Contribution towards Health put up by CHEB during the exhibition on Women in India's development at Teen Murti House, New Delhi.

Smt. Sonia Gandhi evinced keen interest in the stall on Women's Contribution towards Health put up by CHEB during the exhibition on Women in India's development at Teen Murti House, New Delhi.

AN exhibition was organised at Teen Murti Bhavan by the Ministry of Human Resource Development on the theme 'Role of Women in Development of India' from 14th to 28th November, 1993.

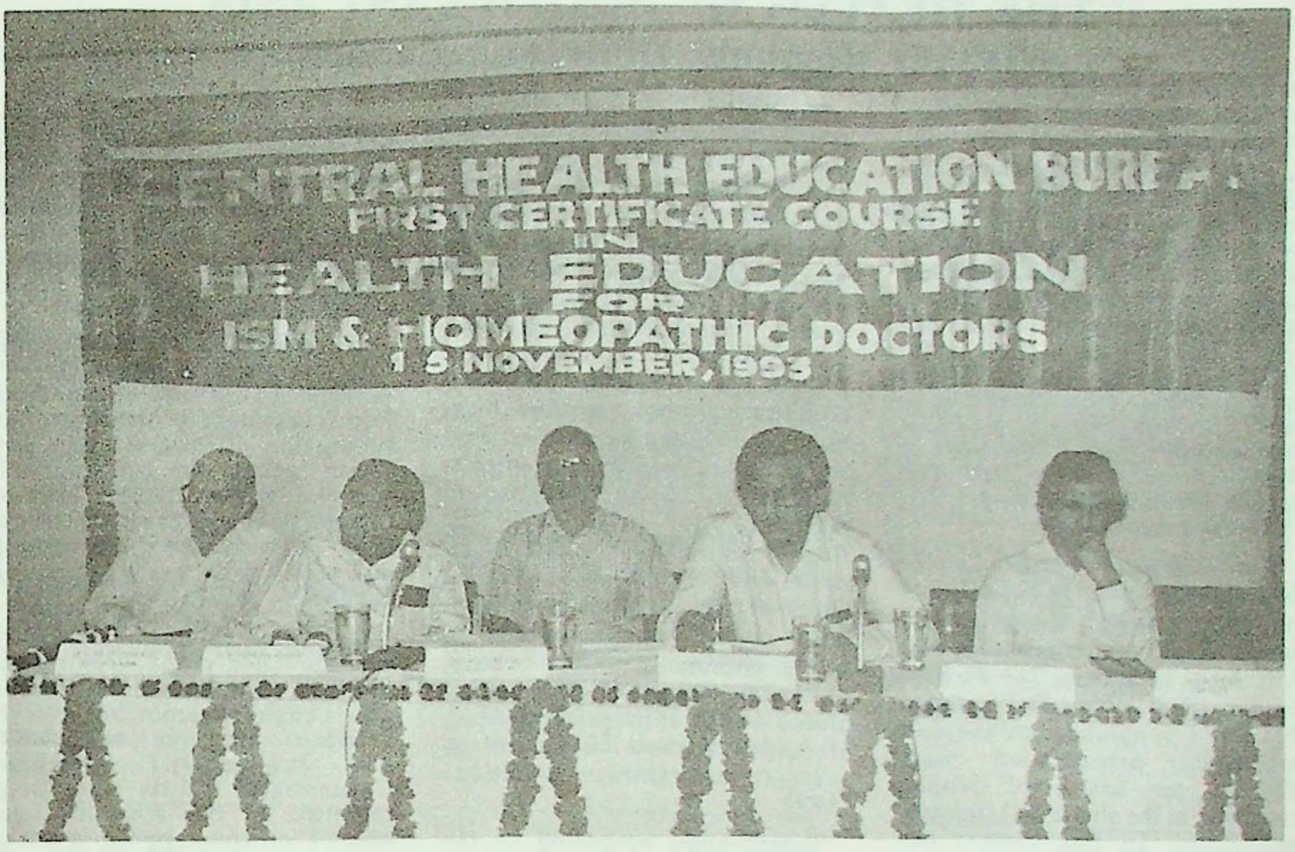
The Central Health Education Bureau, as one of its functions, organised a stall on the theme stressing mainly on the health aspect on 14th November, the inauguration day of Exhibition.

Smt. Sonia Gandhi along with other colleagues visited the exhibition and evinced keen interest. She admired the work done by CHEB in highlighting the role of women in development of India, more so in the field of health.

The other dignitaries who visited the Exhibition were Shri Pawan Singh Ghatowar, Dy. Minister of Health and Family Welfare and many experts in the field of health. Students from all over Delhi had an exposure to health education messages during this period. The star attraction was a working model on human anatomy. The parts of the body were demonstrated by the faculty of CHEB.

CHEB was awarded an appreciation shield for participating in this exhibition.

—Dr Manjeet Singh
CMO(T)



Shri I.J. Chaudhary, Additional Secretary (Health)—second from right—inaugurating the First Certificate Course in Health Education for ISM and Homoeopathy on 1 November, 1993 at CHEB, New Delhi. Seated from left to right are : Dr Suresh Prakash, Director, Health Services, Delhi Administration; Dr Narendra Behari, O.S.D. (DGHS); Dr V.S. Singhal, Director, CHEB; and Shri Alok Perti, Director, ISM.

Certificate Course in Health Education for ISM and Homoeopathy Doctors

A five-day Certificate Course in Health Education for Doctors of Indian Systems of Medicine and Homoeopathy was held from 1st to 5th November, 1993 at the Central Health Education Bureau, New Delhi. The course was inaugurated by Additional Secretary (H), Shri I.J. Chaudhary. This was the first time that doctors of different systems of medicine sat together and exchanged their experiences; more so in the field of Health Education. 27 participants from various agencies like Municipal Corporation of Delhi, Delhi Administration, Tibia College and six Post Graduate students of Preventive and Social Medicine of Delhi University attended this course. There was 100% participation. During the Valedictory Session all the participants admired the efforts taken by CHEB for bringing together doctors of different systems of medicine on one platform and sensitizing them for the need to impart health education as one of their duties.

—CHEB

THE HEALTH OF SOUTH-EAST ASIA —WHO Regional Director's Report

CONCERTED efforts by the health and health-related sectors have resulted in an improvement in the health status of the population in WHO's South-East Asia Region. This is exemplified, among other factors, by the lower infant mortality rates and improved immunization coverage of children. There are, however, some problems which continue to cause concern. This is stated in the biennial report on the work of WHO in the South-East Asia Region covering the period 1 July 1991—30 June 1993.

The report, presented by the Regional Director, Dr U Ko Ko, to the 46th session of the WHO Regional Committee for South-East Asia, held from 21—27 September, 1993 in New Delhi, stated that rapid population growth and unplanned urbanization were affecting the health of people, especially in the slums and squatter settlements. In this context the report stated that greatly increased efforts would be needed to realize the water supply and sanitation coverage targets set for the year 2000, particularly with regard to sanitation.

Recognizing the advantages of a holistic approach to child survival and development, WHO, together with other United Nations agencies and nongovernmental organizations, was developing integrated systems of MCH/family planning service delivery as a part of primary health care through the safe motherhood initiative, among others. Considering the recent changes in socio-politico-economic structure as well as in the epidemiological patterns of disease, particularly in developing countries, WHO was reviewing and updating the health research strategy in the Region.

The report stated that while high immunization coverage had been achieved and sustained in most countries in the Region, it was less than the national coverage at some sub-national levels. Surveillance remained the weakest component in most national immunization programmes. Since difficulties were anticipated in the supply of vaccines in several countries, WHO was exploring diversified sources to fill the gap. Diarrhoeal diseases continued to pose a serious threat to children in the Region and control activities constituted a priority programme. According to present estimates, four countries in the Region—Bangladesh, India, Indonesia and Nepal—accounted for about 40 per cent of the global mortality caused by pneumonia in young children. In this context, particular emphasis was being placed on the appropriate training of health workers in control of acute respiratory infections (ARI).

Tuberculosis, according to the report, continues to be a serious health problem in the Region. In 1991, nearly 2 million cases were reported, which was almost 50 per cent of all the cases reported globally. The disease takes a toll of nearly one million annually in the Region. With the emergence of HIV and AIDS, there is a renewed interest in the control of tuberculosis. The main thrust of WHO activities was to support the Member Countries in achieving a cure rate of 85 per cent of detected smear-positive cases and to detect 75 per cent of such positive cases by the year 2000.

Referring to the situation of HIV infection and AIDS, and the fact that its extensive spread did not begin till the mid-1980s, the report stated that the impact is already severe. More than 1.5 million people are estimated to have been infected with HIV and nearly 20,000 have developed AIDS in the Region. In response to the threat, governments in the Region had developed national AIDS control programmes with WHO support. While political commitment was growing, multisectoral responses, including the active involvement of NGOs and the private sector were being mobilized.

The report referred to the significant progress achieved in the development of new vaccines and in the transfer of technology for the production of vaccines and sera. These include the production of vaccines against dengue haemorrhagic fever, plasma-derived hepatitis B vaccine, snake venom anti-sera, and vaccines against Japanese encephalitis and DPT.

Countries in the Region are endemic for many vector-borne diseases such as malaria, dengue and dengue haemorrhagic fever, filariasis, Japanese encephalitis and leishamiasis (kala-azar). Concentrated efforts were being mounted in the areas of operational research, appropriate technology development and its application and training as well as public health education to prevent and control these diseases. New malaria control strategies were being developed to tackle the situation which had been static for some years.

The report added that with the introduction of multidrug therapy (MDT), and an intensification of control activities, there has been a dramatic decline in cases of leprosy in the endemic countries of the Region.

The report stated that health development had received a new impetus and it was being increasingly recognized that health is an essential component of human development. A healthy, happy and prosperous South-East Asia Region was the goal that was to be achieved. The Regional Director was confident that with continued collaboration and renewed vigour, the cherished goal would be achieved. □

19 MILLION DOLLAR WFP AID TO ICDS

THE United Nations World Food Programme (WFP) will provide an additional 19 million dollars worth of food aid for the Integrated Child Development Services scheme in India.

The Committee on Food Aid Policies and Programmes, WFP's governing body, approved the budget increase for the fifth phase of the ICDS programme at a meeting which ended in Rome on 29 October 1993.

Under the increased budget allocation, the WFP, the Food aid organisation of the United Nations, will provide an additional commitment of 35,716 tons of soya fortified bulgar wheat (SFBW), 5,687 tons of corn-soya blend (CSB) and 5,032 tons of vegetable oil as supplementary nutrition for pre-school children, expectant and nursing mothers under an ongoing project.

WFP's support to health and nutrition schemes in India has focused on the Integrated Child Development Scheme (ICDS) and similar programmes set up under a project since March 1976.

The WFP assisted project supports the ICDS in five States, Assam, Kerala, Madhya Pradesh, Rajasthan and Uttar Pradesh. An average daily total of 2.12 million beneficiaries are provided with supplementary nutrition through this project.

Of those receiving supplementary meals, about 15 per cent are expectant and nursing mothers, 40 per cent are children under three years of age and the remaining 45 per cent are children between three and six years of age who are eligible for pre-school education.

In April 1993, a WFP mission which reviewed the ongoing phase of the project concluded that continued food assistance to the ICDS was merited. To attempt certain innovations in the project, the WFP recommended a 12-month bridging phase until March 1995. The enhanced WFP commitment will provide adequate resources to allow project activities to be maintained at the existing level of utilisation over the extension period.

Commodities supplied under the ICDS have been mostly in the form of supplementary food. The WFP assistance has amounted to a total of 233.9 million dollars over 17 years and five expansion phases. —U.N. Newsletter 13 Nov. 1993

DIABETES CASES RISING RAPIDLY TOWARDS 100 MILLION

World Diabetes Day 1993 Aimed To Increase Global Awareness

THE World Health Organization is warning that the number of people with diabetes is rapidly increasing, and could exceed 100 million worldwide by the end of the century, compared with an estimated 60 million three years ago. A WHO study group on the prevention of diabetes is predicting that the major part of the increase will occur in developing countries.

For the third successive year, in an effort to increase awareness of diabetes among governments and the general public, WHO co-sponsored World Diabetes Day on 14 November 1993, along with the International Diabetes Federation.

Dr Hilary King, the WHO medical officer responsible for diabetes said today: "There is no doubt that this disease is now a global health problem, with populations of developing countries, minority groups and disadvantaged communities facing the greatest risk".

"The rapid rise in the frequency of the disease in these populations seems to be closely associated with lifestyle changes that accompany industrialization, urbanization and socioeconomic changes in the developing world. Globally, the only question that remains is how huge the problem really is. We expect to have the answer soon, and it may well confirm the view of many experts that there are now as many as 100 million sufferers".

The study group, in a report to be published next year, says: "There is every reason to suppose that diabetes will remain a threat to the public health in the year 2000 and beyond. Demographic and epidemiological evidence suggests that, in the absence of effective intervention, diabetes will continue to increase in frequency worldwide. Thus, prevention of diabetes and its consequences is not only a major challenge for the future, but essential if health for all is to be an attainable target".

Diabetes prevention is largely based on encouraging positive lifestyle changes—for example, reducing obesity, increasing physical activity, and switching to a high-fibre, low-fat diet. —W.H.O.

LEPROSY
—A Select Bibliography—1992-1993

M. SHARADA

We publish below a select bibliography on "LEPROSY" with reference to Indian Context, compiled by the National Medical Library (D.G.H.S.) as a part of its activities aimed at providing Documentation Services to the Health Science Community in the country. It covers selected contributions on "LEPROSY" during 1992-93. Entries follow a classified arrangement using main Subject headings and Sub-headings. Photocopies of these articles can be ordered from National Medical Library (D.G.H.S.) Ansari Nagar, Ring Road, New Delhi-110 029.

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PREVENTION AND CONTROL

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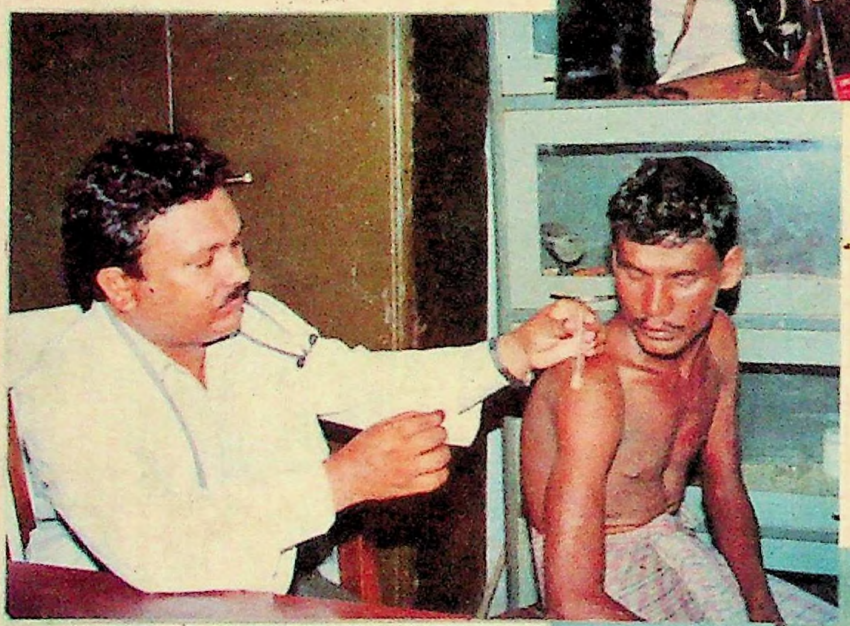

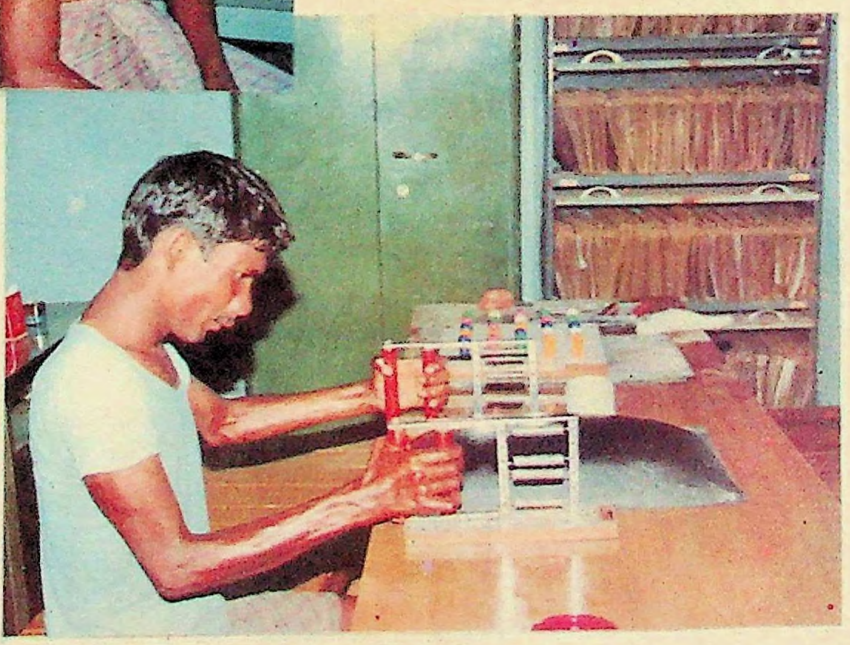

Anti-Leprosy Day: 30 January