

~~1990~~ 1990

NO LONGER

ISSN 0586 1179

# swasth hind



january 1990

1990

1993

1994

vol. 32 no. 1



ANTI-LEPROSY DAY NUMBER

0457 29/1/93e

# swasth hind

Pausa-Magha

January 1990

Saka 1911

Vol. XXXIV, No. 1

## Towards Leprosy Eradication

Leprosy continues to be a major public health as well as a social problem in the country. Social prejudices, fears and superstitions still continue to a large extent to obstruct early case-detection and regular treatment activities.

In India, more than 430 million people live in 196 leprosy endemic districts with a prevalence rate that vary between one and five cases for 1000 people. A substantial population thus remains exposed to a greater level of risk of leprosy infection.

To combat the disease, the Govt. of India launched the National Leprosy Control Programme in 1955. It was redesignated as the National Leprosy Eradication Programme (NLEP) in 1982 with the ultimate aim of arresting the disease activity in all the known cases by the year 2000 A.D.

There are hopeful signs as the present decade has witnessed a major expansion of the leprosy control work in India both quantitatively and qualitatively with the help of the new strategy: Multi-drug Treatment. Under this strategy, rapid cure is being brought to patients by providing continuous treatment. Starting with two endemic leprosy districts in 1982 as many as 112 of the 196 leprosy endemic districts have been brought under the multidrug treatment (MDT). Rest of the districts will be brought under MDT in a phased manner by 1992. The Govt. of India is doing all it can to control leprosy and ultimately eradicate it.

However, the MDT can be a complete success only with the participation of the people. The need therefore is redoubling of efforts towards health education among patients, their families and the community.

On Mahatma Gandhi's martyrdom day—30 January—which is also observed as the Anti-Leprosy Day in India let us emulate the example set by him and rededicate "ourselves to work for the cause of leprosy-relief and thereby bring succour to this section of suffering humanity". It is with this spirit *Swasth Hind* devotes this issue to

**Anti-Leprosy Day.**

**SWASTH HIND WISHES ITS READERS  
A VERY HAPPY NEW YEAR**

*Editorial and Business Offices*  
Central Health Education Bureau  
Kotla Marg, New Delhi-110 002

Edited by M. L. Mehta  
M. S. Dhillon  
B. S. Nagi

Cover Design

In this issue	Page
Multidrug therapy in leprosy <i>Dr S. K. Noordeen</i>	1
Is anti-leprosy vaccine in sight? <i>Dr M. D. Gupte</i>	3
Involvement of Female Health Workers in Leprosy Eradication Programme <i>Dr D. K. Mahabalaraju</i>	5
Role of rehabilitation in leprosy <i>Dr Saudan Singh</i> <i>Dr Sanjiv Kumar Bhasin</i>	7
Role of Central Leprosy Teaching and Research Institute, Chengalpattu, in National Leprosy Eradication Programme <i>Dr P. N. Neelan</i>	9
Monitoring and evaluation under National Leprosy Eradication Programme <i>Dr N. S. Dharmshaktu</i>	11
Our new Minister of Health and Family Welfare— <i>Shri Nilamani Routray</i>	13
Symposium on	14—19
How far the goal of leprosy eradication by 2000 A. D. is achievable?	
(a) If yes, what is the progress?	
(b) If no, what are the impediments? and how can they be overcome?	
<i>S. P. Tare</i>	
<i>T. N. Jagadisan</i>	
<i>R. K. Mutatkar</i>	
International Gandhi Award on Leprosy—1990	21
Health Sector	22
—Priorities identified <i>Shri Nilamani Routray</i>	
News	25
Leprosy—a select bibliography <i>Smt. Krishna Basra</i>	27
Book Review	3rd Cover

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.

The contents of this Journal are freely reproducible.

The opinions expressed by the contributors are not necessarily those of the Government of India.

SWASTH HIND reserves the right to edit the articles sent in for publication.

## SUBSCRIPTION RATES

Single Copy . . . . . 50 Paise  
Annual . . . . . Rs. 6.00

(Postage Free)



# MULTIDRUG THERAPY IN LEPROSY

DR S. K. NOORDEEN

It is well recognized that leprosy combines several problems which have serious implications on the individual, the family and the community. The challenges posed by the disease include its communicability, its potential for causing physical deformities, its chronicity, and its propensity to generate intense negative social reaction.

It is estimated that there are about 10 to 12 million cases of leprosy in the world. However, the number of registered cases has varied over the years: 2.8 million in 1966, 3.6 million in 1976 and 5.4 million in 1985. Since then, there has been a distinct change in the trend with a significant reduction in the number of registered cases to 3.9 million cases by 1988, a reduction of about 28%. This is attributed to Multidrug Therapy (MDT) implementation and the resulting release from treatment of a significant number of patients.

By the early 1980s it was clear that dapsone was steadily losing its usefulness, due to drug resistance, and that there was a general lack of enthusiasm for leprosy control in many countries because of the poor results being achieved. Although more potent anti-leprosy drugs were available then, the information and guidelines available on how to apply them in a practical way was insufficient. It was under these circumstances that WHO constituted the Study Group on Chemotherapy of Leprosy for Control Programmes in 1981.

The recommendations of the Study Group, which are now recognized as a milestone in the history of leprosy, are not always fully understood, particularly its rationale. With the problem of dapsone resistance increasing in its dimensions, and with the availability of better bactericidal drugs

against *M. leprae* such as rifampicin in the 1960s, the application of leprosy treatment through combinations of drugs became a clear possibility. It was realised that with leprosy patients harbouring very large bacillary populations similar to those with tuberculosis, successful chemotherapy should be one which is capable of preventing the selection of drug-resistant mutants as well as killing of all, or nearly all drug-sensitive organisms. With the prevention of selection of drug-resistant mutants and the killing of nearly all drug-sensitive organisms it was expected that relapse after stopping chemotherapy could be virtually eliminated.

#### Acceptance of the recommendations on MDT

The recommendations on the MDT regimens made by WHO received enthusiastic support from most of the leprosy-endemic coun-

tries, WHO Regional Committees, international and national non-governmental organizations, donor agencies, and professional bodies. Some countries had introduced modifications to the WHO recommended regimens, but these were generally minor and within the essential requirements for MDT. In several countries, MDT provided the opportunity to increase the priority for leprosy control and strengthen their political commitments.

#### Progress with implementation of MDT

The coverage of leprosy patients with MDT has rapidly increased over the past few years to reach, by October 1989, 45.3% of the total registered cases in the world. The increasing acceptability of MDT among national health services and leprosy patients themselves is due to: (a) the fixed, and relatively short duration of MDT treatment; (b) the

low-level of toxicity and treatment related side-effects; (c) the very low relapse rates following completion of treatment (0.1% per year for PB and 0.06% per year for MB based on information based on 85,125 PB cases and 22,087 MB cases); (d) the high level of acceptance of clofazimine discolouration (over 98%); (e) significant reduction in frequency and severity of ENL reactions. One more advantage of the WHO/MDT regimens is the considerable increase in the proportion of self-reporting cases at an early stage of the disease. Consequently, this has led to a reduction in the number and degree of deformities among new cases; an increased acceptance and compliance of patients to the treatment; and better community support to patients.

Table 1 shows the global progress of MDT implementation from 1985 to 1988. For the first time, and in spite of the considerable increase in the number of newly detected cases during MDT implementation, there are indications of a decline in the total number of registered patients in the world. This decline supports the efficacy of the WHO MDT regimens for leprosy control and opens the possibility of major reductions. However, the world coverage with MDT for leprosy is very uneven with some countries having a high coverage and others lagging behind.

Of the 109 leprosy endemic countries only 47 countries (or 43% have at least 50% MDT coverage of their patients.

#### Operational problems in implementing MDT

In spite of the tremendous progress made with MDT, several problems, particularly at the operational level are faced by leprosy control programmes. These include:—(a) the inability to increase

TABLE 1.—PROGRESS OF MDT COVERAGE

	Oct. 1985	Oct. 1986	Oct. 1987	Oct. 1988	Oct. 1989
(a) Registered cases (X 1000)	5,368	5,341	5,813	4,908	3,866
(b) No. of cases on MDT	78,752	4,68,222	6,99,589	16,04,927	17,51,903
(c) % of total cases on MDT	1.47	8.77	14.54	32.70	45.32
(d) of cases WHO completed MDT (cumulative total)	9,425	93,216	5,10,593	6,27,919	8,53,706

the priority for leprosy in some countries as a result of other pressing health needs; (b) poor health infrastructure to cope with MDT; (c) inadequate resources particularly for drugs; (d) absence of a proper plan of action to implement MDT; (e) inadequate training of health workers; (f) lack of laboratory facilities for skin smear examinations; (g) poor referral facilities to deal with complications; (h) insufficient patient education about what to expect from MDT so that when the time comes for stopping treatment, the decision would be acceptable to the patients.

#### Future prospects

With the increasing political commitment in many countries to deal with leprosy effectively, with the increasing appreciation of the value of multidrug therapy as a very potent technology, and with the increasing international cooperation, both from the bilateral and multi-lateral sectors enabling additional inputs, **it is not unrealistic to expect a reduction of leprosy case-load by as much as 80% in the next five to seven years, at least in countries with effective programmes.** However, notwithstanding anticipated major reductions in prevalence, it should be recognized that other problems will remain for quite some time to come such as disabilities

among old cured patients and a continued, albeit reduced, incidence of new disease arising from infections caught several years earlier. Hence, apart from investing heavily on efforts to reduce leprosy prevalence through MDT, there is a need to plan for the future so that leprosy control becomes part and parcel of primary health care encompassing early detection, treatment, as well as disability prevention and management. In addition, on-going research in leprosy vaccines, if found successful, offer great promise to interrupt transmission completely and attain eradication.

There is no doubt that MDT has brought about a major change in technology for leprosy control. It has also resulted in a new outlook towards the disease, and raised hopes among patients, health workers, and programme managers alike. Where the implementation of MDT is vigorous and sustained, the results are extremely gratifying. Problems, both technical and operational, need to be constantly reviewed and solutions found. The opportunities to markedly reduce leprosy in the next decade are immense. It remains to be seen whether or not we make use of them, and whether or not leprosy will ultimately be eliminated as a public health problem as part of the overall goal of Health for All by the Year 2000. Δ

Swasth Hind

# IS ANTI-LEPROSY VACCINE IN SIGHT?

DR M.D. GUPTE

The need for vaccine against leprosy control cannot be over emphasised. Remarkable progress has been made with respect to identifying various components of *Mycobacterium Leprae* in their micro-structure. There are immense possibilities for developing a genetically engineered vaccine as well. However, it is not possible to predict when such a kind of second generation or third generation vaccine can be developed. It is, therefore, essential to undertake comparative studies with the presently available and promising anti-leprosy vaccines. Thus, answer to a question like, is anti-leprosy vaccine in sight, should be given with guarded optimism, feels the author.

IF leprosy can be cured, then even salted fish can swim", goes an old Chinese saying. Decades have passed since we knew that effective treatment for leprosy is available. The prospects for curing leprosy are no longer bleak and it is known that leprosy is like any other communicable disease. However, the fear associated with leprosy and the stigma due to disabilities, deformities and disfigurement happen to be very deep rooted cultural characteristics. Therefore, the proposition of leprosy prevention gets accepted enthusiastically and also creates lot of expectations in all the echelons of the society. Difficulties in growing *Mycobacterium leprae*, the leprosy germ, in artificial culture medium happens to be the main obstacle in developing an anti-leprosy vaccine. Efforts were, therefore, directed to organisms similar to the leprosy germ that can be used for preparation of anti-leprosy vaccine. We are now in a fortunate situation where it is possible to consider a vaccine based on the leprosy germ derived from armadillos as well as anti-leprosy vaccines based on organisms similar to the leprosy germ.

Difficulties in the treatment of leprosy, particularly lepromatous leprosy also led to the belief, "a patient of leprosy remains always a leprosy patient". A leprosy vaccine usually can be considered as preventive vaccine or a prophylaxis against leprosy disease. A very unique possibility is being explored with some of the anti-leprosy candidate vaccines about their capacity to treat a patient of leprosy. Thus in addition to the immunoprophylactic uses, the anti-leprosy vaccine can be used as an immunotherapeutic agent.

Patients of lepromatous leprosy are negative to a lepromin skin

test. There is a strong belief, and some good evidence, that persons who are lepromin negative even after exposure to *Mycobacterium leprae*, are susceptible to lepromatous leprosy. Therefore, when in 1939, Fernandez demonstrated that BCG could convert the lepromin negative individuals to lepromin positive individuals, lot of enthusiasm was generated regarding the possible use of BCG as a leprosy prophylactic agent. Several studies were undertaken with BCG in different parts of the world and the results obtained were quite variable (Table-1).

TABLE 1  
RESULTS OF MAJOR FIELD TRIALS AGAINST LEPROSY WITH BCG

Country	Control		BCG		protection (%)
	Person years	Incidence % o per year	Person years	Incidence % o per year	
Burma	1,51,060	5.5	1,51,415	4.4	20.4
New Guinea	27,100	6.3	29,300	3.4	46.0
Uganda	42,800	4.5	43,300	0.9	80.9
India	2,40,000	9.6	4,88,000	7.4	23.0

Evidence available from the African countries, for example, Uganda, from Table-1, indicate that there is already a vaccine available for leprosy. In fact, studies based on BCG scars and historical data as well as prevalence studies in Malawi in Southern Africa indicated that BCG would be effective at least to the tune of about 60 per cent in preventing leprosy. However, findings from other parts of the world do not support this view. For instance, in Burma, protective effi-

cacy of BCG was 20 per cent and in India also it was similar.

#### Parameters

The limited success of BCG in preventing leprosy was not adequate to justify the use of BCG for leprosy prophylaxis. The search for newer vaccines continued. Several parameters were being identified to judge the possible anti-leprosy efficacy of a vaccine. Few of the parameters are mentioned in Table-2.

**TABLE 2**  
**PARAMETERS TO JUDGE APPARENT ANTI-LEPROSY EFFICACY OF A CANDIDATE VACCINE**

- (1) Lepromin conversion in animals
- (2) Lepromin conversion in initially lepromin negative healthy individuals and in patients of lepromatous leprosy.
- (3) Animal protection—Mouse foot pad studies
- (4) Immunotherapy in patients of leprosy

#### Pioneering Research work

Dr. Jocinto Convit from Venezuela has done pioneering research work in this direction. He used killed *Mycobacterium leprae*, derived from armadillo in combination with BCG in some patients of leprosy and their contacts. He found that it was possible to achieve lepromin conversion by using this combination in contacts as well as in patients of lepromatous leprosy. He convincingly demonstrated the immunotherapeutic efficacy of this combination in patients of lepromatous leprosy. Studies of Dr. Convit led to development of a candidate leprosy vaccine, viz., BCG in combination with armadillo derived killed *Mycobacterium leprae*. This vaccine is presently being tested in Venezuela by Dr. Convit himself and in Southern Africa in Malawi

by Dr. P. E. M. Fine and his colleagues for the prophylactic efficacy. Both these trials are supported by the IMMLEP Programme of the World Health Organization.

#### Developments in India

We should be proud of the developments in this field in India. Drs. Bapat, Ranadive and Khanolkar, reported, way back in 1958, cultivation of a mycobacterium from patients of lepromatous leprosy. This mycobacterium is called ICRC bacillus (Indian Cancer Research Centre bacillus). It was observed that the ICRC bacillus was similar to the leprosy organism. Drs. Deo and Bapat continued research on ICRC bacillus and were able to develop an anti-leprosy vaccine. They demonstrated the ability of this vaccine in lepromin conversion

as well as its immunotherapeutic potentials. This vaccine is presently being tested for its prophylactic value in Sholapur district in Maharashtra by Dr. Deo and his colleagues.

There is one more cultivable bacillus, somewhat similar to the leprosy germ, called *M.w.* Dr. Talwar and his colleagues have developed a vaccine based on the *M.w.* bacillus. This vaccine also shows the abilities for lepromin conversion as well as immunotherapy in patients of lepromatous leprosy. At present, immunotherapeutic trials with the *M.w.* vaccine are being conducted in Delhi by Dr. Talwar and his colleagues. It is expected that Dr. Talwar would be undertaking a prophylactic vaccine trial in Kanpur district in Uttar Pradesh.

A third candidate vaccine from India is being developed in Central Drug Research Institute, Lucknow. This vaccine is based on a mycobacterium called *Mycobacterium habana*. Interestingly, this vaccine is expected to be effective against both tuberculosis and leprosy. Developments with respect to this vaccine are being watched with expectations.

#### Promising Results

Availability of several candidate vaccines is thus very promising. All these candidates fulfil the requirements of a candidate leprosy vaccine to varying extents. It is not possible, nor advisable, to use any of these vaccines as prophylactic vaccines at the present stage of development. It is essential to prove their prophylactic efficacy in well planned and conducted studies. It will be extremely useful and absolutely essential to compare these candidate vaccines in similar situations.

(Contd. on page 8)

# INVOLVEMENT OF FEMALE HEALTH WORKERS IN NATIONAL LEPROSY ERADICATION PROGRAMME

DR D. K. MAHABALARAJU

---

**Adult females are major victims of leprosy. Pregnant women and lactating mothers are more susceptible to leprosy. So it is opined that female paramedical workers can achieve better coverage among females, particularly adult females. Hence, inclusion of Female Health Workers in leprosy case detection activities is recommended for achieving better coverage among females.**

---

Leprosy is a major Public health and grave socio-economic problem in the developing countries: more so in India. India accounts for four million leprosy cases. The problem is far more serious than is indicated by the number of cases alone. The economic loss, physical-social handicaps, psychological problems, mental agony, and social stigma attached with the disease further compounds the problem.

The WHO from its very inception has given priority to Leprosy Control. In India National Leprosy Eradication Programme (NLEP) was launched in 1983 with the hope of eradicating Leprosy by 2000 A.D.

Now, there are many recent advances in the field of Leprosy. More potent anti-leprosy drugs are available. Multi-drug regimen is practiced to combat drug resistance. There is progress towards anti-leprosy vaccine. Facilities for early diagnosis, treatment, rehabilitation,

overall support by Government and non-Government agencies at National and International levels are available. Using existing and new knowledge, pooling the resources and emphasizing health education, now it is possible to cure leprosy at any stage. Thereby we can prevent transmission of infection and protect healthy population. Prevention of deformities and complete rehabilitation is also possible. These developments suggest that Leprosy eradication is achievable in foreseeable future.

### *Social stigma*

Social Stigma makes the patient to conceal his disease. Female patients refuse examination because of social taboos against the examination of women by male health worker. Hence, infectious patients are undetected and hidden in all sectors of societies. They are maintaining the spread of infection, and acts as a major barrier in the suc-

cessful implementation of Leprosy Eradication Programme.

Paramedical workers (Leprosy) play a very important role in case detection activities. Early case detection needs complete examination of individuals with minimal clothing. Our paramedical workers are mostly males. Because of this, adult females usually refuse examination by male workers. The following study supports the above statement and suggests that involvement of female health workers is crucial for the success of the National Leprosy Eradication Programme.

### *Epidemiological study*

An epidemiological study of Leprosy was undertaken by the Author in one rural paramedical worker sector, (Lokikere). This area is situated in Chitradurga district of Karnataka State. The study area consist of 13 villages with a population of 34,838 living in 5,317

families. All the individuals residing in the study area were contacted by house-to-house visit and examined for the evidence of leprosy. Survey was started in the early parts of the day (January 1987 to December, 1988). So that the villagers could be examined before they left for the work.

Early case detection in leprosy needs complete examination of individuals with minimal clothing. Our paramedical workers are mostly males. Because of this, adult females usually refuse examination by male workers.

#### *Females—major victims*

Observations of the study reveals that out of 34,838 population residing in the study area, only 31,367 (90.04%) population could be examined for the evidence of leprosy. Coverage was better among males (91.25%). Examination of females was less (99.77%). Only 77% of females of 25-34 years of age group could be examined for the evidence of Leprosy. The less coverage of adult females in this study was mainly due to refusal of adult females for examination. The studies conducted by Ganapati in 1976, Ramu *et al* in 1973 and Bechelli *et al* during 1973 have shown that site of predilection of Leprosy lesions was gluteal region and thighs. Hence complete examination of body is essential in case finding activities. Females, particularly adult females, refuse examination of these covered

parts by male workers. Females constitute nearly 50% of the population and they are equally susceptible for leprosy as males. Adult females are major victims of leprosy. Pregnant women and lactating mothers are more susceptible to leprosy. So it is opined that female paramedical workers can achieve better

coverage among females particularly adult females. Hence, inclusion of Female Health Workers in Leprosy Case detection activities is recommended for achieving better coverage among females.

KUSHT VINASHAK.  
SEP-DEC. 1989.

### WORLD AIDS DAY 1990 TO FOCUS ON WOMEN

Dr Hiroshi Nakajima, Director-General of the World Health Organization (WHO) announced formally 22 January, 1990 that the theme for World AIDS Day 1990 will be Women and AIDS, while addressing the Eighty-fifth session of the Executive Board during the debate on the global strategy for the prevention and control of AIDS.

WHO announced that World AIDS Day 1990 will:

\*Heighten awareness about the risk of HIV infection and AIDS, especially in women;

\*Expand and strengthen the worldwide effort to stop AIDS by highlighting the impact of HIV/AIDS on women around the world—not only as a medical problem, but as HIV/AIDS affects women as care providers, health-workers, educators, and mothers;

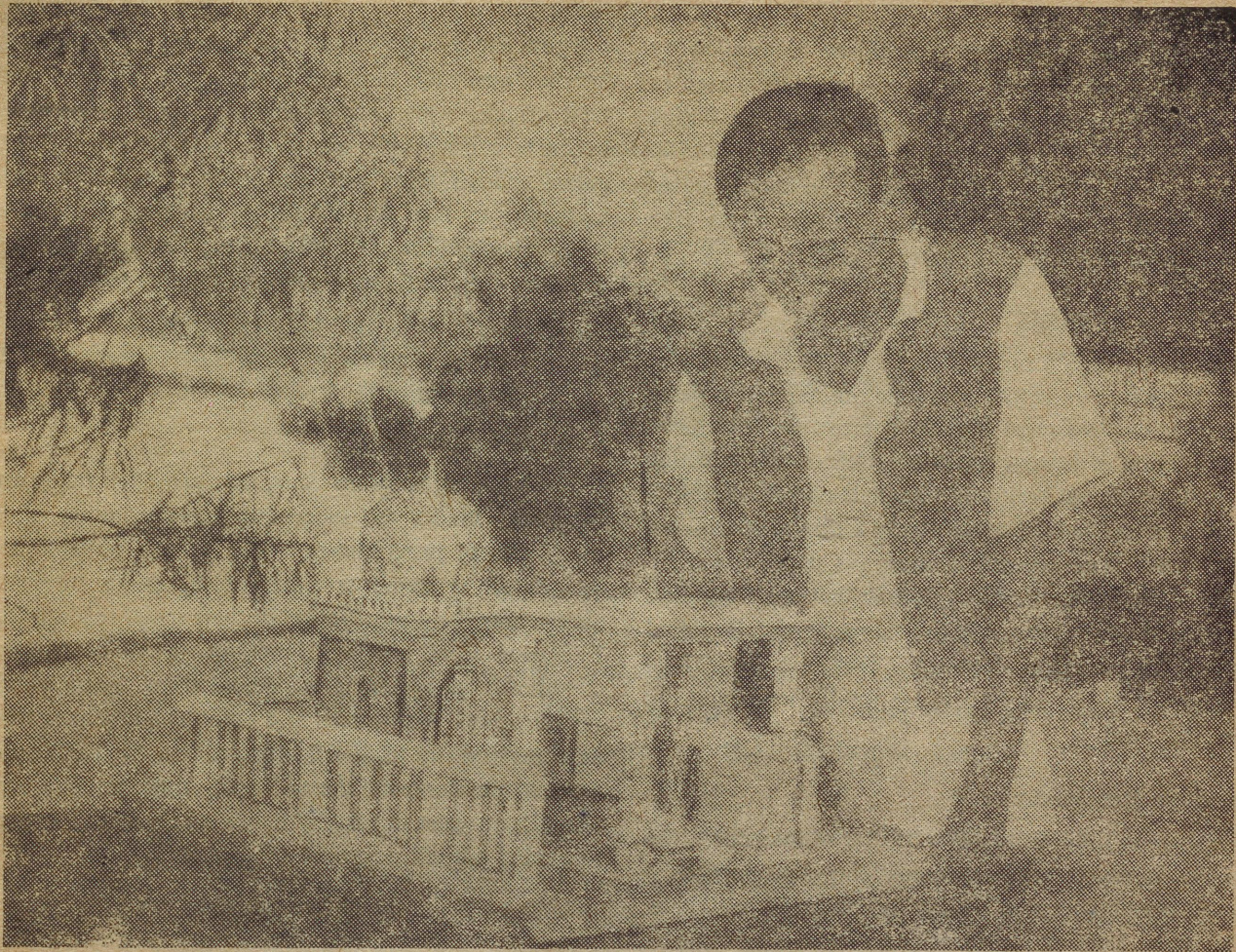
\*Strengthen AIDS prevention activities and programmes at all levels of society, especially as they pertain to women;

\*Promote respect and care for all HIV-infected people and people with AIDS; and

\*Contribute to lasting dialogue, sustained activity and long-term commitment among all people in countries around the world.

World AIDS Day 1990 will also highlight the link between the status of women within the family and society, and their vulnerability to infection and its consequences. It will also draw attention to the special concerns related to HIV/AIDS and pregnancy, childbirth and raising children.

AIDS is a serious health problem which affects women, men and children in countries around the world. Worldwide, WHO estimates that at least six million people are now infected with HIV, and that approximately two million—or one third—are women. It is expected that by the end of 1992, a cumulative total of over 350,000 cases of AIDS will have occurred among women, or three times as many as had occurred by the end of the 1980s. WHO projects that by the year 2000, an estimated six million cases of AIDS will have occurred among men, women and children, or 10 times the current estimated number of cases. ○



---

## ROLE OF REHABILITATION IN LEPROSY

DR SAUDAN SINGH

DR SANJIV KUMAR BHASIN

---

*The leprosy patients and their family members are to suffer from various traumatic experience due to disruption of their social relationship. Exclusion from religious functions, social ceremonies, community gatherings and denial from participation in educational institutions and employment leaves these leprosy patients as social out-casts. The voluntary organisations have a significant role to play in the creation of a social environment by removing ignorance, superstition and prejudice against the disease. Rehabilitation is of utmost importance both for the patient and the community as the rehabilitated patients while being drawn in the social mainstream will contribute towards the national developmental efforts rather than being a burden on the society.*

**R**EHABILITATION may be defined as "The diagnosis, treatment and prevention of debilitation". In the context of leprosy, debilitation chiefly affects three areas of life; the disease can cause a patient to lose his family and place in society, his work and his means of livelihood or his self-respect. It is cited that on an average 15-20 per cent of leprosy patients develop physical disabilities, e.g., drop foot, claw toe, hammer toes, planter ulcers, depressed nose, arthritis, multiple sinuses, etc. Thus, rehabilitation of leprosy patients must fulfil the triple objectives of their physical, economic and social rehabilitation.

Rehabilitation is an integral part of leprosy control. It must begin as soon as the disease is diagnosed. The cheapest and surest rehabilitation is to prevent physical

deformities and social and vocational disruption by early diagnosis and adequate treatment. The measures that are taken in this direction are known as "preventive rehabilitation". The approach to rehabilitation should, therefore, begin with dehabilitation. We should never allow dehabilitation to take place and afterwards take up the uphill task of rehabilitation.

#### Physical rehabilitation

The deformities caused directly by the disease and secondarily due to factors operating on insensitive parts, constitute the two most important elements in physical rehabilitation of leprosy patients. Deformities affecting the hands and feet seriously impair the working ability of patients and require surgical correction in specialised institutions. The existing facilities for physical rehabilitation including Leprosy Rehabilitation Promotion Units, Units for Reconstructive Surgery and Regional Leprosy Training and Research Institutes (RLTRIs) functioning under the NLEP are totally inadequate to meet the need.

#### Economic Rehabilitation

Leprosy in India is largely a disease of the poor. The financial hardship acquires almost tragic proportions if the sole bread winner in the family contracts the disease. The patient loses employment and new jobs are difficult to come by. The disease often causes incapacitating effects. Faced with poverty, antipathy from the family members and scorn from the community, these patients often fall victim to mental depression, they shun society and neglect treatment.

There are a large number of patients suffering from leprosy, specially in rural areas, who continue with their original work. However, their efficiency generally becomes considerably low. Such persons do not need actual rehabilitation but also require some financial assistance to take up a subsidiary occupation in order to supplement their income. Thus the three kinds of activities required for vocational training are:—

- Selection of a suitable craft or vocation.
- Re-education and training in new vocations, and
- Placement of the trained persons.

#### Social Rehabilitation

The social dimensions of leprosy are often tragic and frequently hinder the successful implementation of leprosy control programmes. The leprosy patients and their family members are subject to various traumatic experiences due to disruption of their social relationship. Exclusion from religious functions, social ceremonies, community gatherings and denial from participation in educational institutions and employment leaves these patients virtually as social out-casts. In the creation of a social environment the voluntary organizations have a significant part to play by removing ignorance, superstition and prejudice against the disease.

Thus rehabilitation which is tertiary level of prevention in National Leprosy Eradication Programme is of utmost importance both for the patient and the community as the rehabilitated patients while being drawn in the social mainstream will contribute towards the national developmental efforts rather than being a burden on the society.

---

*Contd. from page No. 4*

CJIL Field Unit, Avadi, Madras, situated in a leprosy endemic area in Chingleput district is planning for such a comparative study. Prophylactic studies against leprosy are expected to take long time—a decade, if not more. Results of the ongoing vaccine trials in India, as well as in other countries, and the proposed comparative vaccine trial are thus expected in about 10 years from now.

Remarkable progress has been made with respect to identifying various components of *Mycobacterium leprae* in their micro-structure. There are immense possibilities for developing a genetically engineered vaccine as well. However, it is not possible to predict when such a kind of second generation or third generation vaccine can be developed. It is therefore essential to undertake comparative studies with the

presently available and promising anti-leprosy vaccines.

The need for a vaccine against leprosy cannot be overemphasized. It is not possible to predict that such a vaccine will definitely emerge from the presently available candidate vaccines. Thus, answer to a question like, is anti-leprosy vaccine in sight, should be given with guarded optimism.

NATIONAL LEPROSY ERADICATION PROGRAMME

# ROLE OF CENTRAL LEPROSY TEACHING AND RESEARCH INSTITUTE, CHENGALPATTU

DR P.N. NEELAN

The Central Leprosy Teaching and Research Institute, situated about 60 kms. south of Madras City, was established in 1955 by the Government of India. It is functioning as a peripheral office of the Directorate General of Health Services, Ministry of Health and Family Welfare since April 1974 and has been providing strong research and man-power training support to the National Leprosy Eradication Programme (NLEP).

THE original objective of the Institute was to develop it as a National Centre for Training and Research in Leprosy, (a) to undertake research into the basic problems relating to the inception and spread of leprosy, (b) to promote applied research in the field which would be of use in the control of leprosy, (c) to train leprosy workers of various categories, (d) to function as a nodal centre to provide technical guidance for the promotion of anti-leprosy work on sound lines, and (e) to participate actively in the organization and development of State leprosy institutions when such are established, and make available its services for the investigation of special problems in all parts of the country.

### Organization

The Institute has a Clinical division with a 124 bed hospital and an out-patients block; a Surgical

division with Physiotherapy unit, a Microcellular Rubber Manufacturing unit and Orthotic and Footwear unit; a Laboratory division with clinical pathology, biochemistry, pathology, microbiology and immunology laboratories and a standard animal house; and an Epidemiology division with a field unit, Central Monitoring and Evaluation unit, Statistics unit, and Training section with a good library facility. In addition, there is an Administrative section headed by an Administrative Officer with ministerial staff to look after accounts, stores and administrative matters.

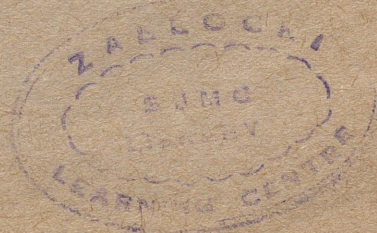
Other facilities available are a well-equipped library, a medical illustration section, a microcellular rubber unit which produces sheets of required strength for use in the footwear manufactured by the Institute and other centres, ophthalmic facilities for in-patients and out-patients care, and computer facility in the

monitoring and evaluation unit of the Epidemiology Division.

### Achievements in recent years

1. With the help of animal house facility, the Institute has contributed to a better understanding of the problem of dapsone resistance in leprosy through studies in the hospital as well as in three different well-defined control unit areas in Tamil Nadu. An offshoot of this was to create awareness and need for introducing multidrug therapy (MDT) in the NLEP in India.

2. Controlled clinical trials funded by WHO THELEP, using Rifampicin, Clofazimine and Dapsone in different combination regimens, have shown that the problem of drug resistance is eliminated by using multidrug therapy. Monthly administration of Rifampicin was found to be as effective as daily administration. These studies helped in evolving appropriate therapeutic regimens in



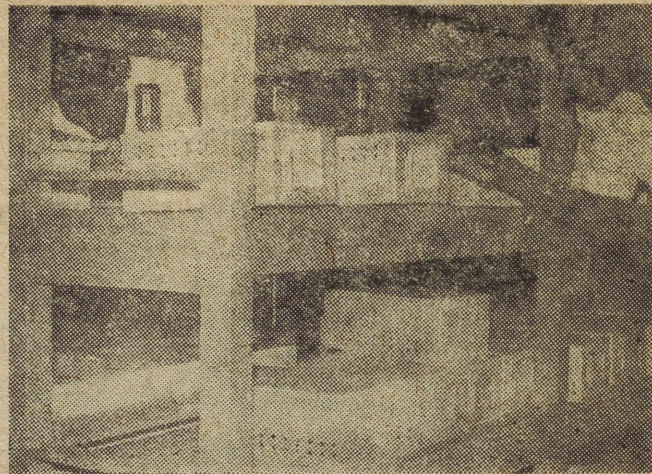
the treatment and management of multibacillary leprosy which were incorporated in the MDT programme of NLEP. Therapeutic studies in the field area of the Institute has shown that six months MDT is adequate in the treatment of pauci-bacillary leprosy.

3. Co-ordinated work in the clinical, surgical, laboratory and field divisions has resulted in a clearer understanding of the clinical manifestations of leprosy, complications like reactions and neuritis, and also the evolution and natural history of the disease process and progress in the affected individuals including borderline leprosy.

4. The Institute has devised a simple laboratory test that could be carried out in the field by peripheral level workers to monitor dapsone compliance among patients. It has also taken up the responsibility of procuring and distributing the Kits and reagents for doing the test to the various State units in India as a part of NLEP activity.

5. One of the objectives of the Programme is to reduce the incidence of disabilities in leprosy through early detection and effective treatment. Basic studies in nerve involvement and consequent development of disabilities, and management and prevention of neuritis in leprosy are areas of interest in the Surgical Division of the Institute. Studies on the structure and functions of the foot and its disorganisation in leprosy through use of barograph, EMG and other equipments have thrown light on the understanding of the genesis of plantar ulceration. The surgeons of the Institute have tested and devised short duration satisfactory treatment procedures for healing of plantar ulcers using collagen sheets, zinc tapes and *Debrisan*. They have also devised original and modified techniques in surgical correction of deformities of hands and feet in the leprosy patients.

6. The Institute has carried out longitudinal follow-up of the population (through detailed surveys) in the field area of the Institute over a period of 20 years, and used several intervention procedures like MDT and chemoprophylaxis. This resulted in the collection of information



Animal House—mice cages

about epidemiology (distribution, transmission etc.) of leprosy in these parts of the country.

7. Laboratory division has standardized the smear taking procedures for the Programme and for monitoring cross-checking of smears.

8. With the help and guidance from the WHO Consultant in Statistics, officers in the Monitoring Unit have brought out a Guideline for Sample Survey and Assessment Units (SSAU) in the States. The document has been distributed to all States and Union Territories. The Unit is also training personnel of SSAU teams from the States.

9. The Monitoring and Evaluation Unit has developed a Management Information System that has been field tested and is being used for in-depth monitoring of NLEP activities in Namakkal Control Unit of Salem District. The work is being continued.

10. One of the major and continuing activities in the Institute is the training of various categories of personnel working in NLEP in the states. The Institute has also organized workshops and meetings on behalf of the DGHS to devise means to strengthen the existing leprosy training centres in the states and also to re-orient the training to meet the needs of the Programme. In addition, the Institute collaborates with JIPMER, Pondicherry in training for four months the candidates of the postgraduate Diploma course in

Leprosy. A four week exposure to surgery in leprosy is given to orthopaedic and general surgeons. Fellows sponsored by WHO come every year for short training in leprosy control.

During the 7th Plan period, the Institute has further developed to take up additional responsibilities in support of a successful implementation of the NLEP. We are confident that the continued support from the Ministry and the Directorate and the future expectations based on the assessment of our present performance, will be fully reflected in our activities in the coming years.

Some of the areas in which the Institute is continuing its research activities are (a) Developing a culture medium for *M. leprae*. Effort in this direction has already been started; (b) developing simple serological test(s) that could be used in the field as a screening test, (c) operational research in cost effectiveness of alternative approaches in MDT implementation; (d) epidemiological studies in incidence of deformity and its impact on the programme; and (e) operational research in cost effectiveness of alternative strategies in disability prevention, limitation, and rehabilitation.

The Monitoring and Evaluation Unit is expected to take up in stages the work of monitoring the Programme in various districts in the country and also in carrying out operational research studies relevant to the effective implementation of the Programme.

# Monitoring And Evaluation Under National Leprosy Eradication Programme

DR N. S. DHARMSHAKTU

*The National Leprosy Eradication Commission* has been constituted consisting of the following for the guidance and surveillance of the National Leprosy Eradication activities:

This commission is headed by Union Minister of Health & Family Welfare as a Chairman. The members of the Commission are: Union Minister of Finance, Planning Commission, Chemicals & Fertilisers, Education & Social Welfare and five Chief Ministers of the states in rotation. Eight eminent leprologists and social workers and others engaged in leprosy work are also taken as members. The Secretary, Health & Family Welfare is ex-officio Secretary of the Commission. The commission is a policy making body.

*National Leprosy Eradication Board*: It has been set up under the Chairmanship of Union Secretary, Health & Family Welfare. The board functions in the areas allotted under rules of business to the Ministry of Health and Family Welfare, Ministry of Social Welfare and Ministry of Information and Broadcasting in so far as the activities relating to eradication of leprosy and rehabilitation of leprosy patients are concerned. The Board has the powers of Ministry/Deptt. of Government of India. The Board serves as the executive body responsible for implementation of the plans and policies of the National Leprosy Eradication Commission. The members of the board are Secretaries of Welfare, Planning, Rural Development, Information & Broadcasting, Finance and the Secretary, Health who is the Chairman of the Board. Other members of the board are Director General of Health Services, Director-General of ICMR, Senior Deputy Director General, ICMR (ECD), and Assistant Director General (Lep.) who is the Member-Secretary.

At the state level where leprosy problem is high, similar policy and implementation bodies have been set up. Programme runs vertical in endemic areas and in low endemic areas where prevalence rate is less

than five per thousand population. It is being run through general health care staff. In the vertical set up of the programme in-built system of monitoring and evaluation consists of regular reporting from:

PMW → NMS → MO → DLO/ZLO → SLO → Centre  
 ← ←(LCU/← ←(State ← (Leprosy  
 ULC) Dept.) Division)

In the low endemic area the in-built monitoring and evaluation con-

sists of regular reporting from:

MPW → HA → MO → CMO → DJD → State Dept. → Centre  
 ← ←(PHC) ← ← ← ←

To strengthen the monitoring and evaluation activities, the following steps are being taken up in the Seventh Plan:

- (i) Creation of Sample Survey-Cum-Assessment units for more states.
- (ii) Provision of a full time consultant for major state and one for small two/three states/UTs. Currently 9 such consultants are functioning.
- (iii) Provision of part-time leprologists to provide technical supervision and guidance for the high endemic MDT districts.
- (iv) Annual independent evaluation of leprosy programme was done in 1986, 1987 and 1989.
- (v) Annual Conference of SLOs and DLOs of MDT districts.
- (vi) Annual Conference of Voluntary Organisations.
- (vii) Special study of some component of programme through short-term consultants e.g. Training and Manpower Development have been studied.

(viii) Biennial Conference of Heads of Leprosy Training Centres.

(ix) Establishment of Voluntary Organisation Grant Committee.

(x) Monthly, Quarterly and Annual review of the programme at all level.

(xi) Establishment of a "Consultants Coordination Cell" at the national level.

## Important components of Monitoring and Evaluation:

### I Central level

- (a) Physical target achievement
- (b) Objective target achievement: case detection, treatment and discharge.
- (c) Expenditure report.
- (d) Health education activities and fund utilisation.
- (e) Manpower development: staff sanctioned in position and trained.
- (f) Leprosy Training Centres— number of courses and seats

in the year, number of workers trained in the year and number of workers given orientation training in the year.

- (g) Drug position.
- (h) Monthly progress of MDT districts.

### II State level

It is being done on the similar pattern as in the central level. Following aspects are also monitored through SSAUs:

- (a) Quality of data generated.
- (b) Effectiveness of treatment including MDT at periodic interval.
- (c) Estimate magnitude of leprosy problem in the area where infrastructure is not geared to provide such information.

### III District and Peripheral Unit level

All the components of Central/State level are monitored and evaluated in much more detail. Some of the important activities monitored are case-detection by various methods, treatment, treatment regularity, defaulters, bacteriological examination, cross checking of smears, cases discharged as cured, cases died and left area, patients motivation, health-education activities conducted, relapse, vehicle position, availability of equipment/material and training status, etc.

The full-time consultants visit peripheral units and villages for monitoring and providing guidance.

To ensure the accuracy of reported data and to improve the quality of activities under the programme, independent evaluation of programme has been undertaken jointly by the Government of India and WHO thrice. Twenty-seven experts in leprosy/health programme including nine members from outside the country were members in each of the two evaluation teams. Nine teams were constituted in April 1987, who visited 15 states, 28 districts, 150 villages and interviewed 300 patients, 600 community members and 60 para-medical workers. Several other categories of personnel were also contacted in the districts

## ROLE OF VOLUNTARY ORGANISATIONS IN LEPROSY ERADICATION

Voluntary Organisations have played a pioneering role all through the history of the leprosy control activities in the country. Presently over 275 voluntary organisations are actively engaged in the leprosy relief services. Voluntary organisations are predominantly engaged in the health education and rehabilitation services under NLEP. Many of them are also providing survey, education and treatment services. Some of them are imparting training to various categories of staff in Leprosy. One of the voluntary organisations namely Santhal Pahadia Sewa Mandal has also taken up MDT in a district.

In recognition of the great potential of voluntary institutions in leprosy control, the Ministry of Health, Government of India, holds annual meeting with them with a view to establish communication and close rapport to exchange information to understand the nature of their work and to support and recognise their contributions. The last annual meeting was held in December 1988 at New Delhi where 127 voluntary organisations participated.

As per the information received from the voluntary organisations, nearly 8 lakh leprosy cases are on their records. Voluntary Organisations operate under the guidelines of the National Leprosy Eradication Programme are subject to the same type of monitoring and evaluation system. Government of India have also been supporting some of the voluntary organisations by providing grants-in-aid for setting up of SET Centres, LRPUs, Training Centres as well as health education activities. —KUSHT VINASHAK, SEPT-DEC. 1989

visited. Previous two evaluations have brought out that the reported data in terms of case-detection, treatment and cases cured were valid. It was also found that over 90% of patients live with their families. There are problems in respect of completeness of infrastructure, filling up of sanctioned posts, training of NLEP staff and laboratory services in the states of Bihar, M.P., Assam and Karnataka. The 1987 evaluation was also given to undertake an indepth examination of MDT activities in districts which have completed intensive phase of MDT. In all these five districts visited, reported reduction in prevalence rate by more than 75% has been validated.

### Monitoring and evaluation of multi-drug treatment

Monitoring has to be carried out in the mobilisation and preparatory phases initially and subsequently in the intensive and maintenance phases. In the earlier two phases, monitoring of operational parameters is of greater importance where-

as in the later phases the clinical and epidemiological parameters assume more importance.

#### 1. Methods to be adopted:

(i) Monitoring is done mainly by holding monthly review meeting at district level for all Medical Officers of Leprosy Control Units and at the unit level for all paramedical workers. In these meetings the monthly reports will be scrutinised and the achievements against target reviewed.

(ii) Even more important than monthly meetings are the field visits by the District Leprosy Officer, Medical Officers, Non-medical Supervisors and Para-medical workers. During these visits the quality of work also must be monitored. The Para-medical workers will monitor the regular intake of drug by the 'Pill Count Method'. This will be supplemented by the Medical Officers.

(iii) Periodical assessment by SSAU.

(Contd. on page 20.)

Swasth Hind

## OUR NEW MINISTER OF HEALTH AND FAMILY WELFARE

On installation of the National Front Government at the Centre and induction of New Cabinet on 5 December 1989, Shri Nilamani Routray has taken over as the Minister of Health and Family Welfare. Shri Routray (born in 1920 at Mukundapur in Balasore district of Orissa) comes from a middle-class family. The early part of his life was dedicated to freedom movement and hectic political activity against the British Rule. He had to face great obstacles even in completing his college education.

At the age of 12, while in school he was first arrested in 1932 for shouting slogans along with elderly leaders picketing in front of an Opium shop. As a student of Bhadrak High School, he participated in anti-Government meetings and was arrested to have the first taste of his jail life. Once involved in the freedom movement he started organising the students and the public, and carrying on the struggle.



Shri Nilamani Routray

He joined Ravenshaw College, Cuttack, in 1937. As a student leader and the Secretary of All Utkal Students Federation, he was in the forefront of students' activities in the freedom struggle. In 1940, his final year of graduation, he was expelled from the College and the Patna University for his involvement in political activities. Subsequently, he joined Calcutta University and completed his graduation. After graduation, he joined Banaras Hindu University and registered himself both for LL. B and Master in Political Science. In his final year, there was the call of 1942 movement. For his active participation in Quit India Movement, he was externed from Banaras Division.

Thereupon he came back to his native place to mobilize public opinion against Second World War. He was arrested and imprisoned for one year in Balasore jail. Once out of the jail, he was shaken by the devastating cyclone that hit the entire northern Orissa in 1943. For several months he was busy in relief operations in this area.

Then he went to Calcutta University with the hope of completing his Law. There he met Dr Shyama Prasad Mukherjee who helped him in completing his LL. B in 1946. During his stay in Calcutta he was actively associated with the Calcutta based Utkal Samaj and worked extensively in riot-torn Calcutta in 1946. He was also the Editor and Managing Director of 'Prajatantra', a leading Oriya daily, in 1947-48.

In 1948, he was elected unopposed for the first time to the Orissa Legislative Assembly. In 1952 he joined the Council of Ministers as a Deputy Minister. From 1948 to 1951 he was the President of the Orissa Branch of Indian National Trade Union Congress. In 1963, when he was the Labour Minister of Orissa, he was nominated to lead the Indian delegation to International Labour Organisation in Geneva.

In later years he continued as a Minister and in 1965 he was made the Deputy Chief minister of Orissa. He was elected as the President of Utkal Pradesh Congress Committee in 1967 and continued in that position till 1970. He left Congress in 1970 and subsequently became President of the Utkal Congress which was formed after break-up of the Congress Party in Orissa. From 1971 to 1973, he was again the Deputy Chief Minister of the State. In 1974, he became the President of Bharatiya Lok Dal. In 1976, he was elected to Rajya Sabha. He resigned his Rajya Sabha seat in 1977 after he was elected to State Legislative Assembly on Janata Party Ticket and became the Chief Minister. He continued as the Chief Minister of Orissa till 1980.

Shri Routray is one of the most respected surviving freedom fighters and political leaders in Orissa. He is known for his amiable personality and political maturity. In 1986, he published his autobiographical volume "Smrutj O Anubhuti" in Oriya.

## SYMPOSIUM

# How Far the Goal of Leprosy Eradication by 2000 A.D. is Achievable?

- (a) If yes, what is the Progress?
- (b) If not, what are the Impediments? and How can they be overcome?

---

*Can leprosy be eradicated by 2000 A.D.? Or controlled? Is it worthwhile to have an eradication programme when the medical opinion worldwide is that disease can only be controlled and not fully eradicated? Will the multidrug therapy prove effective? These are some of the questions that come to one's mind. SWASTH HIND, in this Symposium, had invited the opinion of three distinguished experts on leprosy who have done a yeoman service in the field.*

*T.N. Jagadisan has this to say: "Even with an all-out effort on a war-footing to bring MDT to the door of every patient, we may have to work at the programme for another ten years beyond 2000 A.D. frtting out new cases and observing the cured ones".*

*"We need not worry too much about eradication of leprosy if we succeed in creating such an atmosphere (where leprosy patient is assured that he will not be discriminated against either by medical profession or society) eradication will come later when we have better immunological tools", says S.P. Tare.*

*The noted Anthropologist, R.K. Mutatkar, asks: Are our programmers willing to change the orientation of the programme from eradication of infection to control or prevention of deformities? If Yes, the disease will be controlled by the year 2000".*

*We reproduce here the views of these experts.*

---

### S. P. TARE

DIRECTOR, GANDHI MEMORIAL LEPROSY FOUNDATION, WARDHA

**T**HE Government of India has pledged itself to eradicate leprosy by 2000 A.D. This decision was taken in 1983 by the Union Cabinet under inspiration of Smt. Indira Gandhi, the then Prime Minister. A Study Group was appointed by the Union Cabinet to chalk out the strategy for eradication of leprosy by 2000 A.D.

The background for this optimistic objective was that we had a very promising technology in the form of multi-drug therapy (MDT) and it was believed

that if this is made available quickly to all patients in the country, it may be possible to eradicate leprosy. This was one of the important recommendations of the above Study Group to achieve the objective.

Majority of leprologists and leprosy workers, however, had their apprehensions about the time-table, though they agreed on the imperative to achieve the objective of Zero-leprosy. A period of seven years has passed and there is more sober realisation based

on the performance of MDT projects so far about the problems in achieving the desired objective within the time frame.

### Progress so Far

There are 196 endemic districts in India to be covered under MDT of which over 100 have been covered. The first district in India to be covered was Wardha in 1982. Since then, six districts have completed over six years and 14 districts over five years. The rest of the districts have functioned for less than five years. The Government proposes to cover all endemic districts by the end of the Seventh Plan. Over 17.77 lakh patients have been brought under treatment in 65 districts till March 1989. Of these, 10.18 lakh patients were discharged from treatment and 7.59 lakhs are under treatment. The reduction in prevalence is over 75% in nine districts, and between 50% in 16 districts.

It will not be out of place to refer to the experience of MDT in GMLF's (Gandhi Memorial Leprosy Foundation) Leprosy Control Unit at Sewagram. The Unit had a prevalence of 23.30 in 1951-52 when control work was started and monotherapy of DDS was introduced. By 1977, the prevalence came down to 8.15/'000. It was at this stage, that multidrug therapy was introduced in the Unit. The new case detection rate was 2.7/'000. Multidrug therapy was extended to pauci-bacillary patients from 1984. The prevalence in October 1989 is 1.0/'000 and new case detection rate is 0.51/'000; the reduction being 88% and 72% respectively.

The experience of over six years on large scale is considered inadequate for having an effect on interruption in transmission of leprosy. There is no evidence of reduction in incidence of leprosy in MDT districts so far. But in all MDT districts there is a universal experience that voluntary reporting has increased and new cases tend to come on their own without fear or hesitation. The intense activity of workers moving from village to village in a jeep and giving supervised treatment on the roadside, impresses the patients. The pauci-bacillary patients need treatment for six months; they are regular for this small duration and are "removed from treatment". As they form over 85% of the total patients, there is a remarkable reduction in load of active cases.

Another indirect result of the intense and hectic movements of leprosy workers to cover their circuits is that people in villages have become more conscious of the leprosy problems in their midst, and more appreciative of the anti-leprosy campaign. This has a definite impact on the social stigma against leprosy with evidence of its gradual reversal.

### What are the Impediments?

There are two types of impediments in the campaign to eradicate leprosy by MDT. Some are related to scientific aspects of leprosy and some are of an operational nature.

Among the scientific aspects, there are a few problems:

1. There is no evidence, in medical history that any disease has been eradicated by medication alone. Hence, it is doubtful whether in absence of any immunological tools, leprosy can be eradicated by multidrug therapy.
2. Due to the imminent danger of dapsone-resistance, there was no adequate time to try out experiments to standardise the drug regimen for multi-drugs. The regimen presently in force is thus not decided on the basis of any scientific controlled trials.
3. We have lacunae in the knowledge about transmission of leprosy and in the absence of that knowledge, the entire strategy is based on detecting EVERY patient of leprosy and treating him till he is cured. But firstly, detecting every case of leprosy is an impossible proposition on national scale, and secondly, the detection of a multibacillary patients is always late in the sense that he may have done the damage before being detected as a case.
4. There are very few drugs which are useful for cure in 100% cases. That is true about multidrug therapy as well. Secondly, the drugs may kill very very large number of bacilli but not *all* bacilli. The presumably very small percentage of surviving bacilli may keep the disease lingering and these lingering/surviving germs may not respond to the available drugs.

The problems relating to operational aspects are still more formidable:

1. The necessary preparation before introducing MDT in a district is many times not done due to the haste to increase geographical coverage.
2. There are number of lapses in monitoring with the result that in places, drugs are not available in enough quantity, vehicles are supplied late and there is no adequate provision for oil; vehicles are not on road and repairs are not made in time for shortage of funds/orders; bacteriological work is the weakest link in the MDT programme; disinterested medical officers and workers hurriedly hand over the drugs to road-side patients without verifying spot intake; patients are not examined properly before being put on MDT; etc. The list can be long one.
3. There is an unnecessary haste to fulfil the targets of case-detection and stoppage of treatment with the results that patients are removed at the completion of the standard duration of treatment without getting satisfied about both clinical and bacteriological inactivity.
4. The case-detection activity (survey of total population) has been relegated to a back place,

## SYMPOSIUM

and only patients noticed casually and those who voluntarily come forward are recorded as new cases.

5. The actual attendance of patients in MDT has gone down to 50% or less in MDT districts which are functioning for three years or more. Moreover, the supervised part of drug-intake is for one drug only but that drug is also handed over to patient.
6. Another important function which is not receiving the desired attention is about surveillance. Once a patient is removed from the treatment register, he is as good as forgotten and not subsequently contacted.

The indirect effect of the great importance given to MDT programme has been on the Leprosy Control Programme in the districts where monotherapy is in progress is completely forgotten, and out of mind of the administrators. There is no supervision and guidance in these districts where lakhs of leprosy patients are living. One can understand that due to many constraints, MDT could not be introduced in all endemic districts, but there can be no justification for neglecting them as grossly as it was occurred.

### How to Improve?

MDT is a very valuable tool and can be helpful in reducing the patient-load and taking us nearer to our ultimate objective. What is actually happening however is that in the enthusiasm for the new technology, it is equated with total leprosy control programme and all other aspects and activities are neglected, as also work in those areas which are as yet uncovered under this technology. Active case-detection programme, individual attention to patients and their problems and the closer interaction between the patient and the doctor, health education in a systematic manner, surveillance of patients need to be paid more attention.

It is also necessary that efforts are earnestly made to involve general health workers in leprosy. The varicella leprosy programme cannot, and need not, be continued so, it has to be horizontalised with general health services in not too distant a future. Very little efforts have been made in the last three decades to involve them, train them, and motivate them.

As a part of the above horizontalisation, it is necessary that involvement of entire medical profession (either in services or in practice) is achieved. An experience of a leprosy patient being welcome in a general hospital, PHC clinics and private dispensaries/clinics will convince society that leprosy is a disease like any other. Once this is achieved, there will be no reason for an early patient of leprosy to conceal his disease, and the quicker he comes forward to take treatment, the safer will it be for the rest of the society.

The problem of a leprosy patient is not the 'disease' as such which gives him no physical discomfort in

COMMUNICABLE diseases are eradicated by vaccination if vaccines are available for the particular disease. In the case of smallpox, eradication on a global scale has

T.N. JAGADISAN  
HONORARY SECRETARY  
KASTURBA KUSHTA  
NIVARAN NILAYAM

been achieved through successful vaccination. In the case of leprosy, vaccines have been produced and are reported to be effective. But, the administration of vaccines on a wide scale can be attempted only on further investigations on a global scale in differing epidemiological and social conditions. Hope of eradication has therefore been fixed on early detection and treatment of leprosy patients with effective drugs which have a bacteriocidal effect. Today, there is a general agreement among experts that multidrug therapy (MDT) is the key to leprosy eradication.

*"Is it possible to achieve through MDT leprosy eradication by 2000 AD?"*

Before answering this question, let us take a brief backward glance at the previous history of leprosy treatment.

**Search for a drug:** The search for a drug for leprosy was a tortuous quest and a long story. First chaulmoogra or hydnocarpus (the best of the drugs of the pre-sulphone era), then methylene blue, then trypan blue—short-lived wonders—then diphtheria toxoid treatment and back again to Chaulmoogra externally, internally and eternally, as the wag said. →

early stage, but the fear of societal attitude towards him. Once he is assured that he will not be discriminated either by medical profession or the society, he will take treatment, get cured and will not hesitate to tell others that he had leprosy. We need not worry too much about eradication of leprosy if we succeed in creating such an atmosphere; eradication will come later when we have better immunological tools.

### REFERENCES

1. *Report of Study Group to prepare a Strategy Plan for Eradication of Leprosy*, 1982.
2. Dr. M.N. Casabianca: *Monitoring and Evaluation of MDT Programme*: Paper read in XVI All India Leprosy Workers Conference 1988.
3. *Annual Report of GMLF*: 1987-88 and 1988-89.
4. *District-wise Progress of MDT as on March 1989*: Govt. of India Publication.
5. *Proceedings of IAL Workshop on Monitoring and Evaluation of Leprosy Programme*: June 1988.
6. Dr. M.V. Yellapurkar: *Experience of the Current Systems of Monitoring and Evaluation in Leprosy Eradication Programme*—Paper read in the IAL Workshop 1988.
7. *Statistical Compendium on Leprosy*: Centre for Social Science Research in Leprosy 1989 △

## SYMPOSIUM

→

**Sulphone therapy:** The outlook on leprosy treatment brightened with the coming of the revolutionary sulphone therapy. For the first time cheerfulness and positive hope entered the treatment of lepromatous leprosy and its remorseless multiplication of leprosy bacilli could be arrested. An entirely new situation now arose for the leprosy patient. He could get treatment as near to his home as possible. He could look forward to cure if only he took the right number of the right tablets under medical Supervision over the prescribed length of time. The dread of isolation and separation from family and work was gone. The leprosy patient could be a man like other men, living in society and looking after his family. The administrator was quick to seize the opportunity of the new method of leprosy control. Widespread treatment with Dapsone through out-patient clinics became the new strategy. The Report of the WHO Expert Committee on Leprosy (1953) declared: 'Modern treatment which effectively reduced the infection in leprosy patients, and therefore their infectiveness, is regarded as the most potent generally applicable weapon now available in the control of the disease'.

Undoubtedly, sulphone therapy has maintained its place as effective for the vast majority of patients since it can be reached out to a large number of patients at a low cost. Over the years, we have come to know the merits and limitations of sulphone therapy. Treatment with sulphones was prolonged and patients tended to be irregular and they even dropped out. New cases cropped up in sufficiently large numbers and relapses occurred not infrequently.

The great enthusiast of leprosy eradication through extensive administration of sulphones, the late Dr. James A. Doull wrote a sad confession towards the end of his life. "The eradication of leprosy promises to be a long and difficult task; sulphone therapy is of great benefit to the patients, but its value as a preventive is problematic". Moreover, by about the middle of the last decade, the leprosy bacilli had learnt the trick of resisting the effects of Dapsone and the phenomenon of drug resistance not unknown in other diseases like tuberculosis, became a subject of worldwide concern. At this juncture, experts began to think of combining more than one drug for the treatment of leprosy.

January 1990

Dr Enno Freerksen, Director of the Institute for Experimental Biology and Medicine at Borstel, West Germany, conducted a well-conceived and well-executed eradication programme in the Isle of Malta in close co-operation with the German Leprosy Relief Association. This programme, which was continued for a period of ten years, was highly successful. A follow-up investigation of the Malta Project by Dr. W. H. Jopling and other experts of the WHO confirmed the success of the project in eradicating leprosy in the island. They were specially impressed by the fact that no side-effects had been encountered during the treatment. The WHO Expert Group had already come forward with their recommendations in the Technical Report Series No. 675, 1982, that three drugs, Rifampicin, Clofazimine and Dapsone, be used in multidrug therapy.

### Potency of multidrug therapy

The potency of multidrug therapy has come to be recognised. The patients, their relations and the public have been impressed by the results. The regularity of attendance has improved. The great advantage of MDT is that it is bacteriocidal and not merely bacteriostatic. The period of treatment under MDT is relatively short. It is, however, costly. Happily, International Organisations like the members of the ILEP have come forward to collaborate with Governments in MDT programmes and also to assist voluntary organisations to carry out multidrug therapy work. Wherever MDT programmes have been carefully administered and monitored, the prevalence and the incidence of the disease have come down and new deformity is a rare occurrence. **So, leprosy eradication by 2000 AD through MDT is achievable and the progress so far made is encouraging**

### The progress

The progress is noteworthy. However, large endemic areas in endemic countries have not still come under MDT. There should be a rapid extension of MDT work without sacrifice of quality. Pilot projects like that of Malta have given a positive answer. But even if the cost of the treatment is overcome by increased Governmental allotments and the philanthropy of International and National Organisations,

## SYMPOSIUM

the practicability of instituting MDT effectively all over the endemic regions of the world so as to eradicate leprosy by 2000 AD is a matter of doubt and difficulty. There is no doubt that by the turn of century, there will be a great reduction of active leprosy cases. But there is likely to be a residual quantum of infection which should be watchfully dealt with. We may find, to use *Macbeth's* words that "we have scotched the snake, not killed it". (See Shakespeare's *Macbeth* III, ii, 13).

With MDT patient compliance has greatly improved. The fact remains that migration to cities for short or long periods to seek employment and better wages has caused irregularity of treatment in some patients. Even in these patients, a good number achieved regular treatment, according to the criteria laid down in WHO, Technical Report Series 716, *Epidemiology of Leprosy in Relation to Control*, which says, "A patient may be considered to have had regular treatment if he or she has received combined therapy for at least two-thirds of the months in any interval of time. For example, regular treatment for twelve months implies that the patient has had at least eight full months of combined therapy during that twelve-month period"

Any programme of complete eradication of a communicable disease will depend not only on the efficacy of the drugs, but the efficiency of administration. Education of the public, the motivation of the patients, prevention and correction of deformities and rehabilitation of the patients are essential components of the programme. But it is indisputable that at the core of the leprosy eradication campaign today stands the great efficacy of MDT. We should devise ways and means of making this therapy available to all patients and to see that the campaign is not haphazard, but well-organised and well-sustained.

### Conclusion

To sum up, we have in MDT the requisite tools to eradicate leprosy by 2000 AD. However, we shall find that we have still much to do for leprosy even at the beginning of the next century. Even with an all-out effort on a war-footing to bring MDT to the door of every patient, we may have to work at the programme for another ten years beyond 2000 AD, ferreting out new cases and observing the cured ones. Perhaps, the most challenging problem of leprosy in the beginning of the next century will be the "care after cure" of a sizeable number of patients.

R. K. MUTATKAR  
ANTHROPOLOGIST

THE issue whether leprosy can be eradicated or controlled is scientific in nature. Medical Scientists have an answer to this issue.

From the *social science point of view*, the disease of leprosy can cease to be a psychological and social threat to an individual or the community if the programme takes into consideration the fears from which the community suffers on account of leprosy. People's perception of leprosy all over the world refers to ulcers, deformity, mutilation leading to social ostracism and resultant loss of social status or identity. People know death is unavoidable but prefer it without suffering. Leprosy is associated with physical and social suffering but not with death. It is however associated with social death which is worse than physical death for the social animal like man. People do understand infection on the basis of their experience with many other contagious diseases. While other diseases get cured or lead to mortality, people have no long experience of cure or death in leprosy.

How does the leprosy control programme, which aims to wipe out the disease by the year 2000, look at the problem? For the programme, it is basically a problem of controlling infection by reducing the pool of infection by treating the identified patients with drugs. Vaccine could possibly prevent infection but the vaccine may not be successful during the next decade. The programme is thus based on the intake of drugs by the patients. The control programme is thus organised to identify the patients and persuade them to take drugs regularly. The programme also recognises the need to prevent deformities so that the disabled patients do not become a social and economic burden on the community. →

On 30th January, which marks the martyrdom of Mahatma Gandhi, we should remember the human needs of the human being called leprosy patient. For it is only then that the nation and the world can be reared in non-violence and peace, the ideals for which Mahatma Gandhi lived and died. △

## SYMPOSIUM

### → Efficiency

The efficiency of such a programme would depend upon three factors:

- (a) Motivation of the patients and their families to get diagnosed early and to take regular treatment.
- (b) Committed health personnel who would maintain individual contacts with the patients and their families following a human, compassionate approach and to attend their work at regular hours.
- (c) Fast acting drugs with an assured supply.

### Fast acting drugs

Fortunately, the fast acting drugs have been found and the MDT programme is based on the delivery of these drugs. However the first two factors listed above are social in nature. Why are people not motivated enough to participate in the activities of the control programme? Under what conditions would people participate in the programme? Is it true that there is more apathy on the part of medical personnel about leprosy? Is it true that social stigma associated with people is more of a bogey to cover up the inefficiency or apathy of health personnel?

The people have experienced cure from other communicable diseases by taking drugs. But they have not so far experienced cure from leprosy on a large scale. People are not yet aware about the concept or nature of cure in leprosy. Similarly, they have not followed the evolution of the disease starting from non-itching patch or shiny, oily skin to deformity. The health education in this regard has fallen short of communicating with the people about the issues they understand.

If the control programme is directed to prevention of deformity, people's co-operation is likely to be more active, since people are afraid of deformity in

leprosy. As long as total prevention of leprosy is not possible, as long as large number of people are at risk in endemic areas, there is also the fear in the minds of the people about getting deformity. If people are assured that after getting leprosy, deformity is preventable, they would willingly co-operate with the programme.

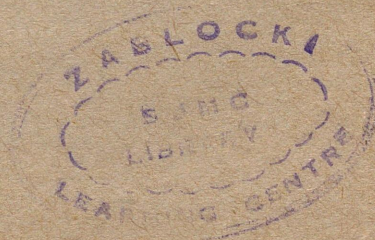
This change in the direction of the programme requires intense health education directed to the community, the families of the patients and the patients themselves. As soon as a patient is diagnosed, close monitoring has to be done by a health worker to ensure that the deformities do not occur or are corrected early.

Mere sermonising that regular treatment will prevent the onset of deformities will not motivate the patients to be regular about intake of drugs. It may be necessary to educate the patient and the community about the mechanism of nerve damage. This would require different kind of health education which would need to be budgeted in the programme.

All health programmes are technical programmes aimed at technical solutions to technical and human problems. Health education is given low priority since its impact cannot be measured easily or the programme cannot be targeted easily. Health education has to be measured in qualitative rather than quantitative indices.

### Deformity prevention programme—better chance

Are our programmers willing to change the orientation of programme from eradication of infection to control or prevention of deformities? If yes, the disease will be controlled by the year 2000. If not, the failures of drug delivery programme will lead to other problems such as resistant bacilli which would require more potent drugs. And this will continue till a fool proof vaccine is found and delivered to the people, from the social science standpoint, deformity prevention programme has better chances of success and would prove cost effective.



(Contd. from page 12.)

(iv) NLEP consultants/Consultant Leprologists have been appointed by the WHO at the request of the Government of India and are assigned one or more States/Districts to be the eyes and ears of the Government of India/State Government to monitor the programme activities in the State including the progress of MDT districts.

### 2. Parameters/Indicators:

The selection of parameters/indicators for monitoring has to be correctly done. Selection of a large number of parameters may be good in a way out it will entail collection of information in a detailed manner involving more desk work by field staff. Hence it is essential to include only, the important, parameters/indicators so that it will be possible to monitor regularly. The indicators in multidrug treatment can be classified as (i) Operational, (ii) Clinical and (iii) Epidemiological.

### 3. Operational Monitoring:

This includes:

- (i) Sanctioning of posts, positioning of personnel and ensuring that they are trained as per time schedule prescribed.
- (ii) Supply of drugs, vehicles and other logistic facilities and their utilisation.
- (iii) Screening of all existing cases by medical officers in the stipulated period before the implementation phase starts and maintenance of prescribed case cards.
- (iv) Updating of records at various levels.

- (v) Drawing of the time schedules for various phases of the project including preparation of calendar.
- (vi) Prompt release of advances by GOI/its approved agencies.
- (vii) Formation of District Leprosy society and convening meetings periodically.
- (viii) Preparation of health education action plan and its implementation and
- (ix) Validity of reported data to be ascertained by periodical checks by the assessment team.

### 4. Clinical Monitoring:

The important indicators to be monitored are:—

- (i) Proportion of multibacillary cases who have regular and adequate treatment.
- (ii) Proportion of paucibacillary cases who have regular and adequate treatment.
- (iii) Proportion of cases with complications who are on adequate and regular treatment.
- (iv) Proportion of cases released from treatment (RFT).
- (v) Clinical surveillance rate for multibacillary cases.
- (vi) Clinical surveillance rate for paucibacillary cases.
- (vii) Bacteriological surveillance rate for multibacillary cases.
- (viii) Relapse rate.

The indicators (i) to (viii) are to be calculated from the data furnished in the monthly report.

### 5. Epidemiological monitoring:

- (i) Proportion of cases registered as against estimated cases (estimated by survey team).
- (ii) Prevalence rate.
- (iii) Incidence rate/new case detection rate.
- (iv) Proportion of multibacillary cases to total new cases.
- (v) Proportion of cases with deformities to total new cases.
- (vi) Proportion of cases among children to total cases.
- (vii) Proportion of cases among contacts.
- (viii) Proportion of new cases voluntarily reported.

It is essential to have the figures for all these indicators before starting multidrug treatment so that its progress can be assessed.  $\Delta$

### WORLD HEALTH DAY—1990 THEME IS “OUR PLANET OUR HEALTH—THINK GLOBALLY ACT LOCALLY”

This double slogan, with the echo of the words of the late French ecologist Rene Dubos, has been chosen by WHO to epitomise World Health Day 1990. The choice reflects the growing awareness of environmental problems, and WHO's conviction that they will be a major topic of worldwide concern during the next decade—and indeed well into the 21st century.

In choosing the broad theme of environment and health for World Health Day this year, WHO intends to spotlight the measures that individuals, communities and countries can and must take to check any further deterioration in the overall health of the planet; because it is on the health of the Earth that depends the health of all its human passengers.  $\Delta$

## INTERNATIONAL GANDHI AWARD ON LEPROSY-1990

IT is, indeed, fitting that medical scientists who have devoted their entire career to combat the dreaded disease—leprosy—are honoured not only in recognition of their pioneering work but also to kindle among the young medical scientists the spirit to enter this field. This is because leprosy is the least attractive discipline among medical research.

It was towards this end that the wardha-based Gandhi Memorial Leprosy Foundation instituted the International Gandhi Award for presentation once in two years to one Indian and one foreign leprologist in 1986. And if, within four years of its inception the Rs. 1 lakh award has already acquired a prestige, it is reflected in the choice of the recipients.

The first set of recipients in 1986 included Dr (Mrs.) Turkan Sylen of Turkey and Dr Dharmendra of India and the second set in 1988 included Dr Ma Hai De of China and Dr T. N. Jagadisan of India—all renowned for their valuable contribution to the understanding and treatment of the disease on the one hand and rehabilitation of the cured patients on the other.

The third set—Dr Michael F. Lechat of Belgium and Dr Ramachandra Vishwanath Wardekar—recipients for the 1990 award, belongs to this galaxy of leprologists.

### Dr Lechat

AT 62, Dr Lechat has established himself as a leading epidemiologist who has contributed greatly to the epidemiological understanding of the leprosy problem. A specialist in tropical medicine and a doctorate from the Johns Hopkins School of Public Health in Baltimore (U.S.), Dr Lechat's involvement with leprosy work dates back to 1953 when he took over as Medical Director of Lyonda Leprosy Hospital in Mbandaka (Belgian Congo).



Dr. Michel F. Lechat

The following years saw him in a variety of assignments round the world as consultant to the World Health Organization, the World Bank and the Swedish International Development Agency. This brought him to India also where he worked as WHO consultant in 1986. His contribution to the understanding of the disease led him to associate himself actively with various national and international organisations engaged in this field. He was President of the International Leprosy Association for a decade from 1978, President of the Medical Commission of International Federation of Anti-Leprosy Association (1974-78), the Associate Editor of International Journal of Epidemiology, Member of the WHO panel of experts on leprosy, and Honorary Chairman of International Leprosy Union.

### Dr Wardekar

—father of leprosy control work in India

THE Indian recipient, Dr Wardekar can rightly claim to be the father of leprosy control work in India, which accounts for one-third of the estimated 12 million leprosy cases in the world. Way back in 1955, when the National Leprosy Control Programme was launched, the Government of India accepted the methodology for leprosy control work evolved by Dr Wardekar who was also instrumental in the drafting of the first four five-year plans for leprosy.



Dr. R. V. Wardekar

The goal was subsequently changed from control to eradication and towards this and a scheme of covering endemic districts with Multi Drug Treatment has been introduced. A perceptible decline in the prevalence rate has been noticed in the 112 endemic districts covered by the MDT programme. But there is still a long way to go to reach the target by the turn of the century.

There can, however, be no two opinions that the strong foundation for this work was laid by the septuagenarian

(Contd. on page 24)

# HEALTH SECTOR

## — PRIORITIES IDENTIFIED

NILAMANI ROUTRAY

---

In our efforts to achieve Health for All by 2000 A.D., steps have been taken to carry health education to the common man. The Government is close to achieve the target for health delivery infrastructure in the rural areas. Voluntary Organizations and opinion leaders are being encouraged to spread the health and hygiene awareness among the masses. With collective efforts of all, a cent per cent healthy nation is not a distant dream, says Shri Nilamani Routray, Minister of Health and Family Welfare.

---

HEALTH for all by 2000 AD as envisaged in the National Health Policy is a worthy aim indeed. However, it will continue to evade the country unless we redefine priorities and policies. There has to be a shift in the accent and on priorities considering the fact that health services are concentrated in urban areas and rural India continues to remain backward. Any action plan on health for all has to incorporate ways and means of not only increasing the number of Primary Health Centres and Sub-Centres, but has also to ensure that the necessary manpower is deployed to

man them. Medical Profession continues to be urban-oriented in our country despite all our efforts in the past to persuade qualified medical and para-medical personnel to fan out in rural India, settle down there and cater to the health needs of the common people. In fact, our efforts should be to take 'Health' to the doorsteps of our villagers. There is a need for establishing well equipped medical centres of education and research in the rural areas.

India has made significant achievements in various health programmes since Independence. The

investment on Health which was Rs. 65.2 crores in the First Five Year Plan has gone upto the level of Rs. 3392 crores during the Seventh Plan. The significant progress made in the control-cum-eradication of major communicable diseases has resulted in the decline of death rate from 27.4 in 1941-50 to 10.9 in 1988. This has contributed appreciably to the rise of expectation of life from 32 years in 1941-50 to 58 years in 1985-91. The infant mortality rate considered to be an index of health status has shown a steep fall from 183 per thousand live births in 1941-50 to

44 in 1988. The birth rate has also declined from 39.9 per cent in 1988.

## TREMENDOUS SUCCESS

A number of National Health Programmes launched for the control and eradication of major communicable diseases have recorded tremendous success. Smallpox has been completely eradicated due to intensive campaigns undertaken in collaboration with the World Health Organisation (W.H.O.) and the State Governments. The country attained Smallpox free-status in July 1975. The cholera control programme started in 1970 has brought down the number of cholera cases and deaths from 86,835 and 42,070 in 1951 to 5,813 and 154 in 1985.

### Leprosy Eradication

For Leprosy, a National Leprosy Eradication Programme was launched in 1982 with the specific goal of arresting disease activity by 2000 A.D. The programme has rapidly expanded having a wide infrastructure consisting of 708 Leprosy Control Units, and 7400 Survey and Treatment Centres as on March 31, 1988. For the first time in 1987-88 the number of cases cured were higher by 10 per cent than the number of cases detected. This trend continues. The Multi-drug Treatment introduced in 1982 has proved very successful in treatment of Leprosy cases.

### Tuberculosis Control

Deaths due to Tuberculosis, a major killer, have also declined considerably with the launching of National TB Control Programme. Under the programme detection of

new TB cases averaged at approximately 16 lakhs in a year registering an increase of about 26 per cent over 1985 figures. To reduce the duration of treatment of TB patients from 18-24 months to 6-8 months, short course chemotherapy drug regimen with very potent anti-TB drugs was introduced and so far 176 districts have been covered during the last four years (1984-88). This is being extended to another 75 districts this year.

### Blindness Control

Under the National Programme for Control of Blindness, each year on average, a target of 12 lakh cataract operations are fixed for the country as a whole. The achievement rate which has been more than 85.1 per cent since 1985 is close to 99 per cent during the current year. Important initiatives taken have been on training of Ophthalmic Assistants, greater involvement of voluntary organisations and setting up of Ophthalmic Cells in 18 major States.

## FIGHTING AIDS AND DRUG ABUSE

To meet the emerging threat of AIDS, a new Programme for control of AIDS with its three major components, namely, surveillance, education and information and screening of blood donors was launched in 1985. We now have 40 surveillance centres for screening persons in the high risk groups. In addition, 28 zonal blood testing centres have been established in Metropolitan cities for screening blood donors. Blood donor screening facility is being expanded to cover all cities with a population exceeding 0.5 lakhs. On the one

hand, research and training of doctors in the proper treatment of the disease have been started and on the other, health education to increase general awareness regarding AIDS in schools, colleges and in the public at large is also being undertaken. Allied to this, a new scheme for development and modernisation of blood banking and transfusion services has also been launched, which aims at testing of blood from donors, its safe storage and supply to the needy patients.

To fight the overgrowing problem of drug abuse/addiction, a drug de-addiction programme has been launched which provides for setting up of Drug De-addiction Centres in major hospitals in big cities. Establishment of 30 bedded Drug De-addiction Centres in seven hospitals at Delhi, Chandigarh and Pondicherry has already been sanctioned. Besides, efforts are being made to set up OPD facilities in major private hospitals at Delhi, Vellore, Ludhiana, Bombay, Madras and Calcutta.

### Health Education

Above all, these years have seen a shift in the emphasis from the earlier curative approach to the preventive and promotive approach providing for more and more Health Education to the common people with the aim of obtaining 'Health for All by the year 2000 A.D.' in accordance with the objective of 'National Health Policy'. Several new health programmes for the control of diabetes, for dental health care etc. have also been launched in the current Plan.

## POPULATION STABILIZATION PROGRAMMES

Family Planning Programmes have formed the core of development planning in India. Allocation

for the same under the Plans increased from 6.5 million in the First Five Year Plan to Rs. 32,560 million in the 7th Five Year Plan. About 106.2 million births are estimated to have been averted upto March 1989 as a result of the work done since inception. However, the annual rate of population growth continues to be still alarmingly high (over two per cent). This is due to a relatively slow lowering of birth rate accompanied by a rapidly declining death rate and hence this forms the base of the present demographic problems.

The total number of family planning acceptors enrolled under the programme has gone up from 16.44 million in 1984-85 to 24.11 million in 1988-89—a record since the inception of the programme. The National Health Policy 1983 has enunciated the long-term demographic goal of the country to reach a net reproduction rate of one by the year 2000 A.D. at the lowest feasible levels of birth rate at 21 per thousand and death rate at 9 per thousand.

### UNIVERSAL IMMUNIZATION PROGRAMME

Provisions of services for safe motherhood and for ensuring child

survival form the major planks of the family welfare programmes. Prophylaxis against nutritional anaemia for both the mother and the child continues to be provided free by giving them iron and folic acid tablets and solutions. The children between 1-5 years are also given Vitamin 'A' doses twice-a-year to prevent Vitamin 'A' deficiency.

With a view to protect children against six common childhood diseases, an 'Universal Immunization Programme' was started in the year 1985. It is stipulated to immunize 100 per cent pregnant women against Tetanus and at least 85 per cent of the infants against Diphtheria, Pertussia, Tetanus, Tuberculosis, Poliomyelitis and Measles by 1990. Uptake of all the immunization services both to the expectant mothers and infants has received a significant increase since 1985. The coverage level under immunization programme has steadily risen from 51 per cent to 75 per cent in case of DPT vaccines, 40 to 72 per cent in case of DPV, 30 to 79 per cent in case of BCG vaccine and from 40 to 63 per cent in case of TT (PW) by 1986-89. Oral Rehydration Therapy is also being promoted

to save children from deaths caused by dehydration due to diarrhoea. Ready-to-use Oral Rehydration Salt (ORS) packets are being distributed free through our health services outlets.

### CATERING TO RURAL NEEDS

In our efforts to achieve Health For All by 2000 A.D., steps have been taken to carry health education to the common man. The government is close to achieve the target for health delivery infrastructure in the rural areas. Against a target of establishing 1,30,000 sub-centres, 21,666 primary health centres and 2,708 community health centres throughout the country by March, 1990, 1,21,776 sub-centres, 19,173 primary health centres and 1,665 community health centres were functioning upto 30 June, 1989.

Efforts are afoot to attain the goal of 'Health for all by 2000 A.D.' by making it a people's movement. Voluntary Organisations and opinion leaders are being encouraged to spread the Health and Hygiene awareness among the masses. With collective efforts, of all, a cent per cent healthy nation is not a distant dream. ○

(Contd. from page 21)

leprologist whose main contribution lay in changing the conventional method of leprosy work and bringing anti-leprosy work out of the four walls of colonies. He was instrumental in bringing about governmental lead and participation in leprosy work.

Dr Wardekar was largely responsible for laying down the patterns of leprosy control units, SET (screening, evaluation and treatment) centres, training centres, urban leprosy centres and referral hospitals. He won laurels for this and these

included the Padmashri and the Dr P. N. Raju Oration Award of the ICMR, both in 1973.

Dr Wardekar has many publications to his credit covering various facets of protection against the disease, its control and rehabilitation of leprosy patients. He was President of the Indian Association of Leprologists in 1965-67, Secretary of the Leprosy Expert Group of the ICMR, Member of the WHO expert advisory panel on leprosy and a Member of the second leprosy expert committee.

# NEWS

## WHO LAUNCHES 'INTER-HEALTH'

### —A Programme Against Diseases of Lifestyles

The World Health Organization (WHO) has announced the launch of "Inter-Health", a programme which sounds a warning against the threat to health of noncommunicable diseases—the diseases of lifestyles—and urges nations to act against them.

According to WHO, noncommunicable diseases are the cause of 70 to 80 per cent of deaths in developed countries and of 40 to 50 per cent in developing countries.

A mosquito transmits malaria; a black fly, onchocerciasis or river blindness; a bug, Chagas' disease; a worm, dracunculiasis; a flea, plague; a bacterium, cholera; and a virus, polio. These diseases are communicable in the age-old manner through a single vector: a parasite, bacterium or virus.

Such is not the case with noncommunicable diseases. They are "man-induced", caused by choice of lifestyles—notably by too much fatty foods, salt, and alcohol; by tobacco; by a lack of exercise; and by polluted air.

One bad habit carries multiple risks to ill-health, as for instance:

—Improper diet carries the risk of stroke, heart disease, hypertension, colorectal, and stomach cancers, diabetes, osteoporosis (a bone disease), malnutrition, obesity and gastric ulcers.

—Tobacco holds the risk of heart ailments, lung and mouth cancers as well as of respiratory diseases.

The aim of WHO's Inter-Health programme is to promote healthy living, as well as to advance the cause of tobacco-free societies.

January 1990

Cardiovascular diseases and cancer already figure among the three leading causes of deaths, after the teenage years, in both the developed and developing world, WHO statistics show. Moreover, in absolute numbers, there are more cancer cases and deaths in developing countries than in industrialized countries.

Lifestyles are no longer purely conditioned by climate or by culture, he stated, but "are influenced by newspapers, magazines, radio, films and television. Lifestyle are imitated as fast as the written and electronic media transmit ideas from country to country".

The developing countries, therefore, bear a "double burden of age-old, communicable diseases—such as malaria, schistosomiasis, and other tropical diseases—and of man-induced, noncommunicable diseases."

—W.H.O. Release

## ADALAT FOR CGHS BENEFICIARIES AND HOSPITAL PATIENTS

The Ministry of Health and Family Welfare has set up a *Shikayat Adalat* to look into the grievances of Central Government Health Scheme (CGHS) beneficiaries and the public receiving treatment at government hospitals. This Adalat will have a four-member bench chaired by a Deputy Director General of Health Services. The Adalat will take up complaints relating to CGHS and hospitals services and will be held once in three months.

All complaints may be addressed to Director (EMR), Directorate General of Health Services, Nirman Bhavan, New Delhi-110011. Δ

—Civil Services News, Oct. 1989

## YOUR EYES

### GLAUCOMA (KALA MOTIA)-A BLINDING DISEASE

- \* Glaucoma (Kala or Neela motia) is a blinding disease.
- \* In India one in seven eyes of glaucoma patients had lost vision before going to the hospital.
- \* One in 80 patients had lost sight in both eyes and was not aware that loss of sight was due to glaucoma.
- \* Glaucoma and cataract occur in the same age group - above 35 years.
- \* Blindness due to cataract can be corrected by simple operation but blindness due to glaucoma cannot be cured.
- \* Dull pain in the eyes, difficulty in seeing in dim light, seeing rainbow colour ring around the bulb, frequent change in reading glasses (often in a year) are some warning signals of glaucoma.
- \* Whenever you go for eye examination, get your eye pressure checked to rule out glaucoma.

*National Society for the Prevention of Blindness - India,*

*Dr. R.P. Centre,*

*AIIMS, New Delhi - 110 029.*

#### Authors of the Month

and

**Dr S. K. Noordeen**

Chief Medical Officer  
Leprosy Division of Communicable  
Diseases  
World Health Organization  
Geneva, Switzerland

**Dr M. D. Gupte**

Officer In-charge  
CJIL Field Unit,  
Indian Council  
of Medical Research,  
271, Nehru Bazar,  
Avadi, Madras-600 054

**Dr D. K. Mahabalaraju**

Lecturer in Community Medicine  
JJM Medical College  
Davangere-577 004

**Dr Saudan Singh**

Asstt. Professor

**Dr Sanjiv Kumar Bhasin**

Senior Resident  
Deptt. of Preventive and Social Medi-  
cine  
Maulana Azad Medical College  
New Delhi-110 002

**Dr P. N. Neelan**

Director  
Central Leprosy Teaching & Research  
Institute  
Ministry of Health and Family Welfare  
Chengalpattu-603 001

**Dr N. S. Dharmshaktu**

Dy. Assistant Director General  
Leprosy Division  
Dte. General of Health Services  
Nirman Bhawan  
New Delhi-110 011

**S. P. Tare**

Director  
Gandhi Memorial Leprosy Foundation  
Hindi Nagar, Wardha-442 103

**T. N. Jagadisan**

Honorary Secretary  
Kasturba Kushta Nivaran Nilayam  
Malayanthangal Post  
(Via) Kandachipuram-605 701, SO  
South Arcot District

**R. K. Mutatkar**

Deptt. of Anthropology  
University of Poona  
Pune-411 007

**Smt. Krishna Basra**

Librarian 'Grade-I'.  
National Medical Library  
Ring Road, Ansari Nagar,  
New Delhi-110 029

# LEPROSY--A SELECT BIBLIOGRAPHY (1986-1989)

SMT. KRISHNA BASRA

- (1) Adjustmental problems of Leprosy patients. Sabesan S, et al. Indian J Lepr, 1987 Jan-Mar; 59(1): 84-91.
- (2) After multidrug therapy (MDT) : Who is responsible for continuing care? Neville J. Kusht Vinashak 1988 Nov; 10(11): 15-9.
- (3) Are bacterial counts on slit-skin smears in Leprosy affected by preparing slides under field conditions? Sayer J, Gent R & Jesudhasan K. Lepr Rev 1987 Sep; 58(3) : 271-8.
- (4) Blister calendar packs for the implementation of multiple drug therapy in DANIDA—assisted Leprosy control projects in India. Georgiev GD & Kielstrup RW, Lepr Rev 1987 Sep; 58(3): 249-55.
- (5) A borderline Leprosy lesion on the palate: a case report. Mishra B, et al. Lepr Rev 1988 Mar; 59(1): 71-4.
- (6) Case detection; are the present survey methods effective? A review of Leprosy surveys in Bombay. Bhatki WS. Lepr Rev 1988 Sep; 59(3): 239-44.
- (7) Change attitude towards the Leprosy affected. Dixit DK. Yojana 1988 Dec 16-31; 32 (23): 26-8, 33.
- (8) Clinical, bacteriological and histopathological assessment of multi bacillary leprosy cases after 1 and 2 years multidrug therapy. Preliminary communication. McNair ANB, Revankar CR, & Ganapati R. Lepr Rev 1987 Jun; 58(2): 182-6.
- (9) Clinico-histological correlation in leprosy. Ramdasan P, et al. Indian J Leprosy 1987 Apr-Jun; 59(2) 119-26.
- (10) Clofazimine & dapsone compliance in leprosy. Ellard GA, et al. Lepr Rev 1988 Sep; 59 (3): 205-13.
- (11) Collaboration between governments and voluntary agencies in Hansen's disease control programmes. Wheate HW. Kushi Vinashak 1987 Mar; 9(3): 1-9.
- (12) Comparative histology of skin and nerve granulomas in leprosy patients. Mukherjee A & Misra RS. Lepr Rev 1988 Jun; 59(2): 177-80.
- (13) Comparison of Colchicine and aspirin in the treatment of type 2 lepra reaction. Kar HK & Roy RG. Lepr Rev 1988 Sep; 59(3) 201-3.
- (14) A comparative evaluation of serological assays for lepromatous leprosy. MWatha J et al. Lepr Rev 1988 Sep, 59(3): 195-9.
- (15) A concentration method for detection and quantitation of bacillæmia in leprosy and its comparison with other techniques. Nagesha CN, et al. Lepr Rev 1988 Dec; 59(4) 337-40.
- (16) Control and eradication of leprosy (editorial). Dharmendra. Indian J Lepr 1986 Apr-Jun; 58(2): 175-84.
- (17) To control leprosy as if the patient mattered. Srinivasan H. J Rehabil Asia 1986 Apr; 27 (1): 26-33.
- (18) Delivery of MDT through blister calendar packs in leprosy eradication, programmes—a multicentre field study (phase I). Revankar CR, Birte HS & Kielstrup RW. Lepr Rev 1989 Jun; 60(2): 135-8.
- (19) Epidemiology of leprosy (Review). Raniu G. Indian Practit, 1988 Mar, 41(3) 199-205.
- (20) Epidemiological study of leprosy in Malwani suburb of Bombay. Chaturvedi RM. Lepr Rev 1988 Sep; 59(3): 113-20.
- (21) Eradication of leprosy—a dream to be fulfilled. Ganapati R. Indian Practit 1988 Mar; 41 (3): 229-31.
- (22) Evaluation of the role of education in NLEP. Basu RI. Kusht Vinashak 1988 Apr; 10 (4): 12-6.
- (23) Factors influencing clinic attendance during the multidrug therapy of leprosy. Langhorne P, et al. Lepr Rev 1987 Mar; 57(1): 17-30.
- (24) Immunopathology of leprosy granulomas—current status: a review. (special article). Narayanan RB. Lepr Rev 1988 Mar; 59(1): 75-82.
- (25) Immunotherapy in leprosy: A new approach. Chattopadhyay SP & Gupta CM. Indian J Lepr 1986 Apr-June; 58(2): 233-7.

- (26) Impact of MDT on leprosy as measured by selective indicators. Jesudasan K, et al. *Lepr Rev* 1988 Sep; 59(3): 215-23.
- (27) In vitro methods for determination of viability of mycobacteria: Comparison of ATP content, morphological index and FDA-EB fluorescent staining in *Mycobacterium leprae*. Katoch VM, et al. *Lepr Rev* 1988 Jun; 59(2): 137-43.
- (28) India's National Leprosy Eradication Programme: Current Status. Mittal BN & Dharmshaktu NS. *Sehat* 1989 Jan; 16(1): 2-4.
- (29) Interminate Leprosy. A passing phase in the evolution of Leprosy. (special article). Sehgal VN & Srivastava G. *Lepr Rev* 1987 Sep; 58(3): 291-9.
- (30) Involvement of students in a leprosy health education programme—an experiment. Naik SS, Samant SG & Godbole PM. *Lepr Rev* 1988 Sep; 59(3): 255-8.
- (31) Leprosy in the Union territory of Delhi. Misra RS & Ramesh V. *Indian J Lepr* 1987 Jul-Sep; 59(3): 293-9.
- (32) The leprosy control programme in the people's Republic of China. Mathias T. *Lepr Rev* 1989 Mar; 60(1): 62-3.
- (33) Leprosy Eradication. Rama Rao WG. *J Rehabil Asia* 1986 Apr; 27(1): 23-5.
- (34) Long-term prothionamide compliance: a study carried out in India using a combined formulation containing prothionamide, dapsons and Isoniazid. Ellard GA, Kiran KU & Stanley JNA. *Lepr Rev* 1988 Jun; 59(2): 163-75.
- (35) Management information system for leprosy eradication System. Revankar CR, Goyal N & Birte HS. *Lepr Rev* 1989 Jun; 60(2): 129-34.
- (36) Multi-drug therapy in leprosy. Girdhar BK. *Indian J Lepr* 1987 Apr-Jun; 59(2): 145-51.
- (37) Newer concepts in the management of leprosy (Review). Dongre VV. *Indian Practit* 1988 Mar; 41(3): 215-21.
- (38) Ocular changes in reactions in leprosy. Shorey P, et al. *Lepr Rev* 1989 Jun; 60(2): 102-8.
- (39) Operational efficiency of leprosy clinics: a time-motion study. Kumar A, et al. *Lepr Rev* 1987 Sep; 58(3): 239-47.
- (40) Operational problems in leprosy programmes when the endemicity declines (editorial). *Lepr Rev* 1987 Mar; 58(1): 1-5.
- (41) Operational research in Hansen's Disease: control & eradication. Amok Kumar. *Kusht Vinashak* 1986 Oct; 8(10): 1-9.
- (42) People participation in leprosy eradication. Dongre VV. *Sehat* 1987 Jan; 14(1): 2-5.
- (43) Primary dapsone resistance in Bamako and Chingleput: final report. THELEP. *Lepr Rev* 1987 Sep; 58(3): 209-18.
- (44) Priorities in leprosy control (editorial). McDougall AC & Georgiev GD. *Lepr Rev* 1989 Mar; 60(1): 1-7.
- (45) Recombinant DNA technology and its application to leprosy research (editorial). *Indian J Lepr* 1987 Jul-Sep; 59(3): 231-8.
- (46) Rehabilitation of leprosy patients. Bhowmick A. *Sehat* 1989 Jan; 16(1): 6-11.
- (47) Review of the proceedings of the Joint Meeting of Indian and Chemotherapy of leprosy (THELEP), Scientists on Multidrug therapy in Leprosy held at Karigiri on 14th-15th Mar. 1988. Chatterjee BR. *Indian J Lepr* 1989 Apr; 61(2): 249-57.
- (48) The role of rehabilitation in leprosy control. Noordeen SK. *Kusht Vinashak* 1986 Jul; 8(7): 1-11.
- (49) Search for newer drugs for leprosy. *ICMR Bulletin* 1988 Mar; 18(3): 21-4.
- (50) Social problems of leprosy: A doctor's experience. Saha K & Chawla NM. *Sehat* 1989 Apr; 16(1): 13-7.
- (51) Transmission of leprosy (editorial). Job CK. *Indian J Lepr* 1987 Jan-Mar; 59(1): 1-8.
- (52) An unusual Bullous reaction in border-line leprosy. Singh K. *Lepr Rev* 1987 Mar; 57(1): 61-7.
- (53) Use of soluble antigens in leprosy epidemiology. Gupte MD & Anantharaman DS. *Lepr Rev* 1988 Dec; 59(4): 329-35.
- (54) Vaccines in leprosy. Desikan KV. *Indian J Lepr* 1987 Apr-June; 59(2): 127-32.
- (55) Vascular involvement in Leprosy. Kaur S & Abraham A. *Indian J Lepr* 1989 Apr; 61(2): 238-48.
- (56) Voluntary agencies and leprosy control in India (editorial). *Lepr* 1987 June 58(2): 97-103.
- (57) Leprosy in India: A statistical compendium. Wardha, Centre for social science Research on Leprosy, 1989.
- (58) Leprosy research reviews: INDO-UK Workshop on leprosy research (February 15-17, 1989) state of the art papers & recommendations. Agra, Central JALMA Instt. for Leprosy (ICMR)-1989. 140 P.

# BOOK REVIEW

## FULFILMENT THROUGH LEPROSY

'FULFILMENT THROUGH LEPROSY' is a well-brought out 436 pages hard-bound book (size 6"×10") written by Mr. T. N. Jagadisan, a selfless and ardent social worker moulded in Gandhian tradition, and published by Kasturba Kushta Nivaran Nilayam, Malavanthangal P. O., South Arcot District, Tamil-Nadu-(605 701), India.

This is an autobiography. Mr. T. N. Jagadisan, who was awarded Padmashri in 1957 and International Gandhi Award for Leprosy in 1988 and who had been described by the President of India, Mr. R. Venkataraman, as "the nearest approximation that I know of to Gandhi's concept of a constructive worker, cardinal Newman's definition of gentleman and *Bhagavad Gita's* ideal of a *sthitha-Pragna*", is its author. He is a man of letters *par excellence* and at the age of eighty he has written in 'fulfilment through Leprosy' the story of his life with utter candour and humility.

It is an autobiography where the cause is more than the man. It is a record of the history of leprosy—from ostracism to care, from care to cure to rehabilitation. He has been a witness to the various phases of treating the disease, from chaulmoogra oil to dapsone and multidrugs, always insisting on avoiding euphoria, and the supreme necessity of supporting treatment with education and the raising of standards of living.

He was born on 2nd October 1909 in the village Thachakkadu, near Chidambaram in Tamilnadu. His father was a Revenue Inspector, who passed away in 1918 hit by the terrible epidemic of influenza. Thus, Jagadisan lost his father at the age of nine. Though he was still a boy, he had to bear the burdens of a man. When he was a boy of 14, he was married to his elder maternal uncle's daughter Asanambal. What Jagadisan has written about child-marriage in his book is worth-noting: "Early marriage even with one whom you liked, with the prospect of your liking ripening into love, has its great disadvantages. Alas! That in certain sections of our society, early marriage is still the custom. Marriage before one reaches physical, mental and emotional growth, inflicts a psychological trauma and deprives the couple of the real joy of a wedding which is their due, and cripples from the start the growth of their matrimonial life."

He developed non-infectious type of leprosy when he was 10 years old. He had heard the people say most fearful things about leprosy and panic seized him. Those were the days (1926) when the general practioners knew very little about leprosy. He had gone to Karachi for treatment of his cracked and ulcerated heel. The doctors at Cuddalore explained him

facts about leprosy and assured him that he had a non-serious and non-infectious form of leprosy. But he has experienced wild fear and prejudice of people towards leprosy and the social injustice to which the innocent sufferers are subjected.

The person who made the most profound influence on Jagadisan's life was Right Honourable V. S. Srinivasa Sastri, who was then Vice-Chancellor of the Annamalai University. He gave Jagadisan deepest understanding when he learnt that Jagadisan was suffering from a slight touch of non-infective leprosy. With the support of his master Srinivasa Sastri, Jagadisan took to his heart the vow of educating the people on simple facts about leprosy and make them view leprosy as a disease and not dread it as a social disgrace. He met eminent Leprologists, Dr Robert G. Cochrane, Paul Brand and many others. He was convinced that the greatest harm is done by the patient's fear of ostracism and his painful efforts at concealment till he can no longer conceal.

Leprosy work brought Jagadisan through Thakkar Bapa and Dr Sushila Nayar to Mahatma Gandhi. He visited Sewagram Ashram in February 1945 along with Dr Cochrane, his friend. He stayed thereafter with Gandhiji ever since, spiritually, intellectually and in the realm of constructive work. What Thakkar Bapa was destined to do for Harijans and Girijans, Vaikunthbhai Mehta for Khadi, Sushila Nayar for Prohibition, Soundaram Ramachandran for women's uplift and rural industries, Jagadisan was destined to do for leprosy.

He is the Honorary Secretary of the Kasturba Kusht Nivaran Nilayam, Malavanthangal, South Arcot District, Tamil Nadu, from its inception in 1945 till now. Because of his sustained efforts, it has been possible to bring down the prevalence of leprosy in and around Malavanthangal from 48 per 1000 at inception to 3 per 1000 in 1980s. He was actively associated in organizing the All India Leprosy Workers Conference since its inception till his retirement. He was the General Secretary of Akhil Bharat Kushta Samita.

Mr. Jagadisan's autobiography "FULFILMENT THROUGH LEPROSY" is a useful record of development of strategies for leprosy control during the last 50 years, from segregation to the recent and effective multi-drug treatment through chaulmoogra oil and dapsone, and from ostracism to rehabilitation through care and cure. It is a neatly printed and calico bound book that everybody interested in leprosy should procure and study.

—DR P. V. PRAKASA RAO

# SWASTH HIND

SPECIAL NUMBERS 1989

January	Anti-Leprosy Day
March-April	World Health Day (Theme : Let's Talk Health)
June	Eye Health Care—I
July	Eye Health Care—II
August	Nehru Centenary Special
September	Drug Addiction
December	World Day on AIDS

Price Per Copy..... 50 paise  
Combined issue..... Re. 1.00

You can also become a regular subscriber for **Swasth Hind**

Annual Subscription : Rs. 6/- (*Postage Free*)

*Send your order alongwith the cost by M.O./Postal Order to :*

The Director  
Central Health Education Bureau,  
Kotla Marg, New Delhi-110 002