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ORGANISATION MONDIALE DE LA SANTE

DISTR. : LIMITED
DISTR. : LIMITEE

WHO/CDS/LEP/88.4

ENGLISH ONLY

leprosy - drug therapy

REPORT OF THE THIRD COORDINATING MEETING ON IMPLEMENTATION OF MULTIDRUG THERAPY (MDT) IN LEPROSY CONTROL PROGRAMMES

The Hague, 13 September 1988

CONTENTS

1. INTRODUCTION

The Third Coordinating Meeting on the Implementation of Multidrug Therapy in Leprosy Control was held at The Netherlands Congress Centre, The Hague, on 13 September 1988. The list of participants is attached as Annex I.

The meeting was opened by Dr S.K. Noordeen, Chief Medical Officer, Leprosy Unit, WHO Headquarters. In welcoming the participants Dr Noordeen explained that the meeting had been held in conjunction with the 13th International Leprosy Congress so as to benefit from the presence of participants attending the Congress. The Coordinating meetings, usually held every two years, were very useful in that information on the implementation of MDT was exchanged; areas of under-coverage were identified and some operational problems were broadly discussed. He believed that these meetings assisted in improving the coverage of MDT implementation.

Since the last meeting, considerable progress has been made in this area. According to the figures available to WHO, over two million patients are currently under MDT and nearly 600 000 have completed the new treatment. There is more and more evidence that MDT is effective, applicable and cost-effective. Well-organized programmes have been able to demonstrate prevalence or case-load reductions of up to 80% within five years. Under these circumstances, to delay MDT for the large majority of patients who have no access to treatment is quite unacceptable. It is therefore very important to plan ahead on a medium- and long-term basis and to coordinate all activities and resources. Dr Noordeen said that he hoped that as a result of the meeting major steps to accelerate the implementation of MDT would be taken. The two main objectives of the meeting were to: (a) review the progress made in the implementation of MDT programmes at the global, regional and country levels by various agencies, and (b) to develop projections and joint action plans for the future implementation of MDT.

2. PROGRESS MADE IN MDT IMPLEMENTATION AND PROSPECTS FOR THE NEXT 5-10 YEARS

2.1 American Leprosy Missions (ALM) - Mr J. Sams

The American Leprosy Missions began implementing MDT in 1983 in its 75 to 100 clinics and hospitals. All patients on their register have completed treatment. Most of these centres have been requested by governments to expand their treatment areas. Many of these early centres have now provided the basic leadership for the new expanded government programme.

As a second step in MDT implementation, the ALM have worked with governments in developing nationwide programmes in the Philippines and Brazil. The ALM also supports state programmes under the governments of India and China.

As new programmes have developed, the ALM feels that the following guidelines are important:

(1) Strong government commitment

(2) Good local organization

(3) Adequate training programmes developed

(4) Financial and human resources

(5) Good programme supervision, and

(6) On-going project evaluation.

2.2 Amici de Raoul Follereau (AL) - Dr Sunil Deepak

Dr Deepak said that his Association is firmly committed to the introduction of MDT in all their anti-leprosy projects. All their smaller anti-leprosy projects at the district or regional levels in different countries scattered all over the world are already using the WHO recommended MDT regimen for treatment. At the national level also, their present and future anti-leprosy programmes are being based on MDT treatment.

In the African continent, AL are collaborating with the national leprosy control programmes of Zimbabwe, Ghana, Guinea-Bissau and Cape-Verde Islands and in each of these programmes MDT is being used. The national leprosy control programme in Mozambique did not get off to a good start because of the difficult situation in the country, but recently there have been attempts to revive the programme.

In the Asian continent, AL's older projects in India have already shifted to MDT and last year, a new project was started in the Amethi District. Also, AL are collaborating with the Indian Government's national leprosy programme in the Chittoor District where MDT is being implemented and in two provinces in the People's Republic of China (Guangdong and Yunnan) where the WHO schedule of MDT is being followed.

In Brazil, AL are collaborating on a project in the Zone of Teresina where MDT is being used.

For the many AL projects which deal not only with leprosy but with other sanitary problems, anti-leprosy drugs for MDT are also supplied.

Regarding future projects, AL has a commitment to collaborate with the Government of India's MDT programme in two more districts - probably Anantpuram (Andhra Pradesh) and Periyar (Tamil Nadu), but the districts have not yet been finalized. There are also other areas proposed for collaboration in Zaire and Brazil.

Regarding MDT treatment, Dr Deepak said that some questions had been raised about the classification of multibacillary and paucibacillary leprosy by some of the AL project leaders and he wanted this to be discussed later on in the meeting.

He concluded by saying that AL is fully committed to the concept of MDT.

2.3 British Leprosy Relief Association (LEPRA) - Mr N. Winship

Mr Winship said that 100% of Malawi's leprosy patients were or still are on MDT and that compliance was excellent. The very welcome 89% reduction in the case-load has depended on full Government support, meticulous standards and adequate finance. The Malawi programme, in seeking the fullest possible cost benefits, is paying increased attention to disability prevention, is assuming responsibility for skin diseases and is continuing to amalgamate with the other national health care services.

LEPRA is keen to help extend MDT elsewhere; it was lamentable that in 1987 some 80% of the world's leprosy sufferers were not on MDT. Acknowledging the right and duty of ministries of health to decide on their leprosy control within the context of their national health core systems, LEPRA is committed to full cooperation with sovereign governments.

In India, LEPRA is very pleased to support the Government's National Leprosy Eradication Programme in one or more districts as well as funding several voluntary organizations.

In Africa, LEPRA believes that its greatest contribution may be through facilitating training, especially for medical students, paramedical workers and programme managers. Accordingly, the feasibility of a WHO collaborative project is being investigated.

2.4 Ciba-Geigy Ltd. - Dr K.S.M. Leisinger

Dr Leisinger referred to current experiences in the utilization of the Ciba-Geigy Leprosy Fund (CGLF). The following projects were funded by the CGLF:

Field Projects:

- Sierra Leone (with the German Leprosy Relief Association)
- Sri Lanka (with Leprosy Relief Emmaüs Suisse and the Ministry of Health)
- Indonesia (with the Ministry of Health)

Chemoprophylaxis:

- Maldives (with WHO)

Other projects

- Development of teaching and learning aids for ILEP
- Adaptation of the WHO computer system for ILEP projects.

Dr Leisinger's perception of the leprosy situation was summarized as follows: (a) ample funds available for leprosy control; (b) shortage of good projects; (c) low absorptive capacity and psychological factors constrain leprosy control; (d) drug prices are not an obstacle; (e) new approaches are needed to tackle the obstacles (especially social stigma).

Dr Leisinger said that for him the cooperation of all partners, i.e., governments, international and national organizations and the pharmaceutical industry was needed for a successful control of leprosy and the benefit of leprosy patients.

If one was to look at the resources which are dedicated to leprosy, one sees a dominant part given to medical considerations and research. The socio-cultural component is already much smaller despite the fact that everyone involved in leprosy control accepts its importance. Political scientists mostly find their expression in the statement that "political will is of utmost importance".

What we perceive to be insufficiently developed is the managerial compound in leprosy control, leprosy control needs managerial professionals as much as it needs medical and sociological experts.

- Planning (infrastructure, manpower, management development, etc.)
- Logistics (drugs, laboratory equipment, transport, personnel etc.)
- Organization (administrative responsibilities versus medical; information, reporting systems, budget control etc.)

- Evaluation (as a permanent task: what are the objectives? What are our actions with regard to achieving them? Who is doing what and how well? What is the return on investment and how does it compare to other projects?).

- Control. (Cost-effectiveness, auditing in financial and non-financial terms done by independent and external organizations).

It was proposed by the Ciba-Geigy Leprosy Fund members that WHO should invite a small group of managerial experts to evaluate several projects in different countries. The results of this exercise would be given to the WHO/Project Sponsor for future reference. Although the recruitment of the managerial experts and their subsequent reports will be the responsibility of the WHO/Project Sponsors, the Ciba-Geigy Leprosy Fund would be willing to finance the costs arising from this task force.

2.5 Damien Foundation (DFB) - Dr J. Janssens

Beginning in the mid-seventies many new drugs were made available, but the problem was how to use them, Dr Janssens said, then in 1980, DFB organized random clinical trials in Central Africa in order to find out the most useful drug combinations for leprosy control. Since 1981, DFB has supported operational research on implementation of MDT in Polambakkam, India. In Asia, DFB provides drugs for different MDT programmes as well as financial support to some MDT districts in India. In the African situation, with low leprosy prevalence and an incipient primary health care (PHC) system, it is difficult and expensive to implement the WHO recommended MDT. For this reason, DFB has organized a seminar to study the feasibility of MDT implementation in Zaire, and pilot areas have been identified for this purpose.

The major benefit of MDT treatment is the reduction in the prevalence of active disease to acceptable levels. However, the next problem will be how to follow-up patients in areas with low or very low prevalence for which, Dr Janssens said, a specialized leprosy service would be required.

Dr Janssens concluded by saying that DFB is stressing the need for MDT implementation in all its projects.

2.6 Aide aux Lépreux Emmaüs Suisse(ALES) - Mr W. Rosenfeld

Mr Rosenfeld said that from the moment ALES learned from WHO and the ILEP Medical Commission about MDT they were determined to implement the new combined regimen everywhere they were working. However, they felt from the beginning that this would only be possible if there were trained staff.

ALES has introduced MDT into all their projects but, unfortunately, so far they have not had the same success in Africa as they have had in India, therefore every effort has to be made to change this.

As far as India is concerned, ALES will work in two districts, one in Jameshetpur (Bihar State) and the other in the Ballary District (Karnataka). This will be in the form of a five-year plan in collaboration with the Indian Government. This has not yet been finalized but agreements should be signed in 1989.

ALES tries to involve governments by signing an agreement of mutual cooperation in leprosy control; by asking to collaborate actively and by making all facilities available, including the duty free import of essential materials. ALES are convinced that, along with MDT and health education, physical and social rehabilitation must be carried out and become part of their work. Integration into the general health services is encouraged.

2.7 German Leprosy Relief Association (GLRA) - Dr (Mrs) P. Graf

The medical policy and progress made by GLRA concerning MDT can be summed up as follows:

- The treatment of leprosy patients with MDT, wherever possible, is absolutely necessary.

- On average, more than 18% of GLRA projects are on MDT but, some already have 100% of all registered patients on MDT, e.g. many regions in Tanzania, Nigeria and Sierra Leone.

- In many countries the case-load has been significantly reduced, for instance from 50 000 to 11 000 cases in Tanzania and from 12 000 to 3 700 in Sierra Leone.

Prospects for the future are:

(a) continued implementation of MDT according to GLRA's policy.

(b) training and retraining which are essential to guarantee the correct introduction of MDT. GLRA has always attached great importance to this aspect, e.g., TALMILEP was funded by GLRA. At present GLRA is also the ILEP coordinator for the training division within the scope of the ILEP Medical Commission.

(c) caring - MDT does not only mean treatment but also covers many more aspects such as health education and the wide field of "care". Within the scope of the subject "care", GLRA especially concentrates on medical and social rehabilitation and the proper handling of disabilities.

(d) integration. GLRA has begun to think about what has to be done when, as a result of MDT, the number of leprosy patients drops significantly. The organization is considering two ways of dealing with this: the first course would be to integrate leprosy services into already existing health structures. However, well-functioning health structures do not exist everywhere as is well known and for this reason GLRA has decided to adopt a second alternative which is to utilise existing well functioning leprosy facilities for the control of other diseases. GLRA is therefore about to start three model projects which are combined leprosy-tuberculosis projects. One project is to be started in India, the other in South America and a third is conceived as a National Programme in Sierra Leone.

However, GLRA does not wish to separate itself totally from existing or planned health infrastructures.

2.8 International Leprosy Union (ILU) - Dr S.D. Gokhale

Dr Gokhale, Chairman of the ILU informed the participants of the objectives of the ILU. These are the coordination of national level NGOs, information exchange, forum activities, training, research and taking the cause of leprosy to other international and inter-governmental organizations like Rehabilitation International (RI) and UN. So far, the ILU has participated in WHO, Economic and Social Commission for Asia and the Pacific (ESCAP), RI and ISSA meetings, organized a workshop of developing countries to prepare protocols on social aspects, which was held in Pune, India, and co-sponsored a Workshop on youth involvement in leprosy in Nairobi, Kenya.

The workplan of the ILU is as follows:

(a) To hold a meeting in Beijing in 1990 and one in Nairobi in 1992 with RI;

(2) To hold a training workshop on building rehabilitation strategies in Kuala Lumpur, Malaysia in 1989;

(3) Follow-up on research proposals prepared at the WHO/ILU Workshop in Pune;

(4) Document country status reports and exchange of leprosy personnel. Referring to MDT, Dr Gokhale said that more mention is made of M. leprae and less of the patient. This may de-humanize the programme. He made the following suggestions for consideration:

(a) Develop community participation as back-up of health education;

(b) Orientation towards prevention of disabilities;

(c) Orientation of legislators to strengthen political will as in China and India;

(d) Action research on rehabilitation and social aspects of leprosy;

(e) Develop patient-oriented programmes.

2.9 International Leprosy Association (ILA) - Dr W. Felton Ross

The ILA is an Association of professionals with its own objectives. It may not have been possible for ILA to take a unified stand on MDT because this was not part of their role. By and large, ILA members recognize that for most situations MDT is the best regimen available at present but it is not necessarily the appropriate regimen for all cases. In addition, ILA strives to develop better regimens which will be more rapidly efficacious in producing cure, require less stringent compliance and provide more protection against disability development than any existing regimen. The number of papers and posters which directly concern MDT available at the Congress (92), illustrates the commitment of their members to the regimens, and the number of papers on new therapies and regimens (37), illustrate contributions also given in this field.

2.10 International Federation of Anti-Leprosy Associations (ILEP) - Mr P. Sommerfeld

Mr Sommerfeld said that ILEP and its member associations have been in the forefront of MDT implementation since 1981. It remains the highest priority for members and in virtually every country, projects supported by ILEP members now report at least some use of MDT.

More recent developments by the Federation include:

- Cooperation with the Catholic University of Louvain, Brussels, Belgium, on preparation of global statistics and use of the ILOMSLEP patient recording and reporting system.

- Restructuring of the Medical Commission is likely to lead to support for innovative leprosy control projects.

ILEP is happy to see that its categorization of patients under chemotherapy/surveillance/care is now widely accepted.

The meeting fell a month or so before full returns from supported projects for 1987 were available, but on the basis of those so far received it appeared that:

- One million two hundred thousand patients are registered in ILEP-supported projects, 850 000 of whom are registered for chemotherapy.

- There has been steady progress in the use of MDT, although there is still some way to go. The number of patients on MDT commencing with the year 1984 (the first year of which there were statistics) is as follows:

  1984: 100 000
  1985: 145 000
  1986: 188 000
  1987: 250 000

  On the returns so far received for 1987, 33% of all patients registered for chemotherapy are on MDT. In 1986, the figure was 22%.

- There continues to be a difference between MB and PB patients as regards MDT use. On 1987 figures: MB - 44% on MDT and PB - 26% on MDT.

- Figures for "completed treatment" were good. There are likely to be 100 000 plus on full 1987 returns compared with 67 000 in 1986. As might be expected, figures for "surveillance" and "care" categories are increasing as a result.

Mr Sommerfeld said that to further increase the use of MDT there is a need to focus resources yet more effectively on priority areas. Thus it would be useful to discuss possible mechanisms for increasing cooperation between agencies in identifying areas that require futher action.

2.11 Japan Shipbuilding Industry Foundation (JSIF) and Sasakawa Memorial Health Foundation (SMHF) - Dr Y. Yuasa

The Japanese Shipbuilding Industry Foundation established by Mr Sasakawa donates US$ 20 to 30 million overseas annually for non-profit making programmes of all kinds including health. WHO is one of the regular recipients.

The Sasakawa Memorial Health Foundation is the medical branch of the JSIF established to realize Mr Sasakawa's long-held personal interest in the welfare of leprosy patients. All of the SMHF's funds are from the JSIF. The basic principles of the SMHF are to support the national leprosy programmes of leprosy endemic countries.

"What should health for all by the year 2000 mean to the 10 to 12 million leprosy patients?" asked Dr Yuasa. By the year 2000, he said, all patients, wherever they are, should expect to be able to receive appropriate chemotherapy. He hoped that "MDT for all leprosy patients by the year 2000 would become the goal of the SMHF and therefore the implementation of MDT would have an overriding priority within the programme. On reviewing their resources, the SMHF hopes to be able to support MDT programmes for at least half a million cases within the next ten years. A more or less firm agreement to spend up to US$ 100 for each MDT patient has been given to China, Vietnam, the Philippines, Thailand, Indonesia, and Zambia. The SMHF also hopes to be involved in India, in some countries in Africa and South America, preferably under tripartite arrangements between the respective governments, WHO and the SMHF.

2.12 Leprosy Relief Organization Munich (AHM) - Mr Helmer Grann

Mr Grann said that it was not enough to remove the stigma of leprosy; real ways to bring the people closer to its solution must be developed.

AHM requested that in the name of human dignity:

(1) Casual advisory facilities be established in centres currently existing in health, youth, sports, women's and religious organizations.

(2) Health service courses in leprosy for volunteers be established, similar to existing first aid courses in the West. The course should be approximately 20-30 hours in length; be conducted during the evenings to enable everyone to attend with the goal of educating laymen and women about leprosy and how to detect it. Through these measures it would be possible to avoid misdiagnosis with other skin diseases.

AHM would like to discuss these points mentioned above in detail with the experts and specialists during the course of the meeting.

Through such practical measures, the social aspects of leprosy would receive the same weight as the medical aspect. MDT can only be optimally administered if the social aspect is treated at the same time. If the social aspect is not fought along with the implementation of the medical aspect, help will come too late.

2.13 The Leprosy Mission International (TLMI) - Mr W.R. Edgar

The Leprosy Mission International is committed to the introduction of WHO MDT regimens at all centres under its control. They are also committed to encouraging, in every possible way, governments or other agencies with whom they cooperate, to adopt MDT in cooperative programmes provided that:

(a) staff are motivated and properly trained;

(b) there is continuity of drug supply;

(c) the infrastructure of clinics and communications are reasonable to enable proper treatment and supervision.

TLMI operates in three major regions; South Asia, South-East Asia and Africa.

Progress has been made as follows:-

Asia:

(a) In India about 85% of patients under TLMI's care from a population of 5.6 million are now under MDT with excellent compliance:

- Training centres have been upgraded to fulfill criteria.
- No patient has to walk more than 5 km. to a clinic.
- Health education has accompanied the introduction of MDT.
- Laboratories have been upgraded to monitor treatment and TLMI is currently assisting the Government of India with quality control for its programmes.

(b) In Bhutan, TLMI is cooperating in a countrywide control of leprosy through MDT and His Majesty's Government TB programmes as they encounter the more remote and difficult areas and terrain.

(c) In Bangladesh and Nepal MDT has been introduced in selected areas as they have met the criteria above.

TLMI has produced a widely used MDT training manual.

(d) TLMI assists governments in MDT implementation particularly in Indonesia.

The situation with regard to implementation of MDT varies considerably as a result of local attitudes to leprosy, prevalence of the disease, the terrain and local communications. As with other areas, wherever possible, before opening new MDT clinics, care has been taken to ensure and maintain a high level of patient understanding and attendance. In some areas for various reasons, monotherapy continues alongside the MDT programme, e.g. patients attitudes, inability to properly supervise the programme because of distance or difficult travelling conditions. Regularity has been achieved, reflecting the care taken in selecting areas in health education. In areas where MDT has been established for five years or more there has been a decline in new patients.

Africa

The implementation of MDT is growing in this Region but is complex and varied, for example, at the end of 1987, a large project in Tanzania had 100% of patients on MDT, whereas a large project in Zambia had only 10% on MDT.

Regularity is not as impressive as in Asia, but this is probably due to poor transport and communications etc.

Where MDT has been faithfully implemented, registered prevalence is low with apparent low incidence.

Improved presentation, optimism and enthusiasm generated by MDT results leads to more self-presentation.

Future prospects

1. A "mopping-up" phase will be carried out in some countries.

2. As the major treatment phase is completed so emphasis should be transferred to finding the missing millions not being treated.

3. Adequate maintenance care will be established for:

   (a) reaction and relapse management
   (b) care for nerve damage and deformity and prevention of same
   (c) new cases who may continue to appear for 10-15 years.

4 Care after cure for the deformed and disabled will be given, e.g. artificial limbs, social and economic rehabilitation and counselling services.

5. Continuing health education of the community and improving community participation.

6. Strategic interest by health agencies is required, e.g., governments, WHO, NGOs and stimulating research activities.

7. Continued chequered opportunities, e.g., Angola, Sudan, Laos adapting to political and security situations.

8. Continued need for training programmes, especially in prevention of disabilities, e.g. a programme of chemotherapy which does not involve itself in preventing deformities will lack credibility within the community.

3. GLOBAL REVIEW OF IMPLEMENTATION OF MDT - Dr L. Lopez Bravo

Since multidrug therapy (MDT) for leprosy control programmes was advocated by the WHO Study Group in 1981, there has been a small but steady reduction in the number of registered cases from 5.4 million in 1985 to 5 million in 1988 - South-East Asia has 74% of the registered cases; Africa has 12%, the Americas 6.6%, the Western Pacific 4.7%, the Eastern Mediterranean 2.0% and Europe 0.2% It is estimated that at least one third of the registered cases, i.e. about 1.7 million cases, are affected by physical and/or social disabilities.

The coverage of leprosy patients with MDT has rapidly increased over the past few years to reach, in May 1988, 31.9% of the total registered cases. 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 (0.12% patient/year for PB and 0.02% patient/year for MB); (d) the high level of acceptance of clofazimine discoloration (0.4% refused in 31 923 patients); (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 a compliance of patients to the treatment; and better community support to patients.

MDT coverage

Table 1 and Fig. 1 show 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, as shown in Table 2 the world coverage with MDT for leprosy is very uneven and efforts need to be made to strengthen treatment capabilities in countries in regions where leprosy is endemic.

TABLE 1. PROGRESS IN MDT COVERAGE

	October 1985	October 1986	June 1987	June 1988
Registered cases (x 1000)	5 368	5 341	5 026	5 018
No. of cases on MDT	78 752	468 222	686 250	1 584 417
% of total cases on MDT	1.47	8.77	13.65	31.90
No. of cases who completed MDT (cumulative total)	9 425	93 216	501 046	597 437

FIGURE 1

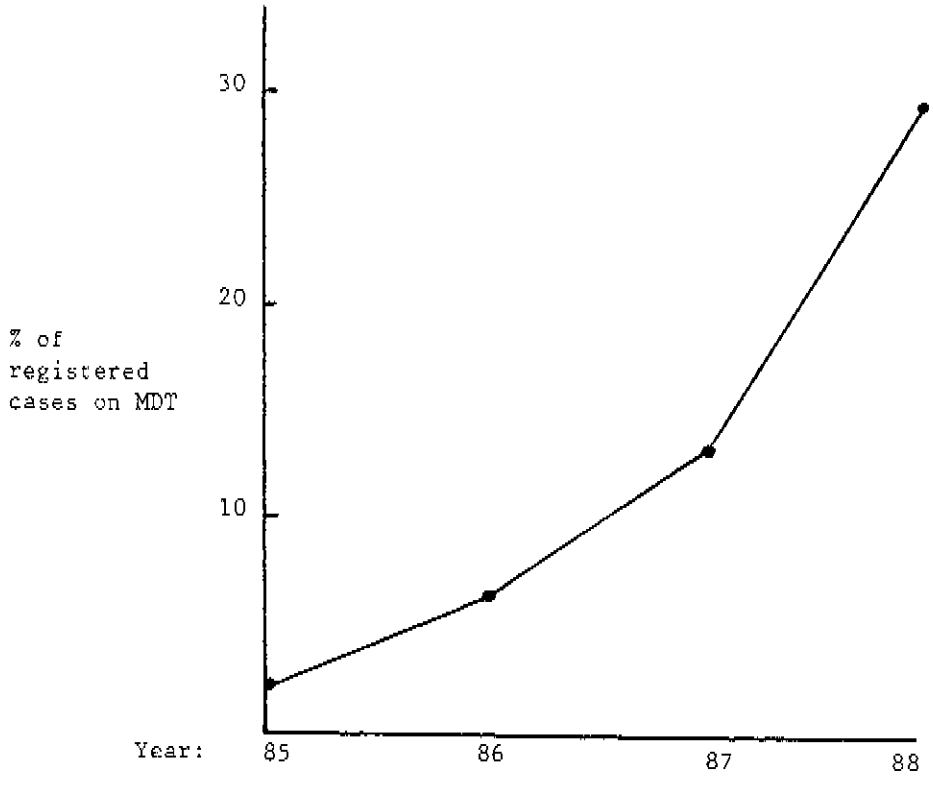


TABLE 2. MDT COVERAGE BY WHO ENDEMIC REGIONS
(EUROPE EXCLUDED)

WHO Region	No. of registered cases (x 1000)	No. of cases on MDT	% of registered cases on MDT	No. of cases completed MDT
Africa	609	49 675	8.2	30 020
America	333	22 871	6.9	5 946
Eastern Mediterranean	102	19 877	19.5	4 842
South-East Asia	3 727	1 447 693	39.1	527 832
Western Pacific	235	34 989	14.9	28 595

In spite of current progress, leprosy control through MDT is facing a number of problems which are slowing its implementation and coverage. The most important ones are: (a) leprosy is often not considered a health priority by governments because the disease and its effects are not fully appreciated; (b) in many countries, awareness of and concern for people with leprosy is often restricted to a small number of health professionals (usually those working for voluntary organizations or missions) highlighting the important need for training of health workers at all levels, including district level health managers; (c) the high cost of MDT regimens vs dapsone monotherapy; (d) a major constraint in many endemic countries is the poorly developed health infrastructure as well as the PHC system which makes it difficult to reach target populations; (e) lack of adequate laboratory facilities for skin smear examination.

However, over the last few years, a few leprosy endemic countries have increased their budget for leprosy control activities, based on the implementation of MDT. In addition, a substantial proportion of funds for the purchase of drugs and related operational costs came from international, bilateral and voluntary organizations, especially the International Federation of Anti-leprosy Associations (ILEP) and the Japan Shipbuilding Industry Foundation (JSIF). Considering the increased need for funds, material and human resources for a more rapid expansion of MDT coverage, it is important to develop mechanisms for the optimal utilization of available resources at the global, regional and national levels in addition to seeking additional resources.

In this respect the WHO Expert Committee on Leprosy in its sixth report strongly advocates effective coordination between the national governments, national and international nongovernmental organizations and other international contributing agencies for optimal utilization of available resources for better leprosy control.

It may be said that, with the available new technology, the leprosy problem could be reduced during the next 10 years by more than 80%.

Future activities

African Region

In general, this is the poorest Region for the implementation of MDT and the one which will require more attention in the future. Besides the low MDT coverage (8% of the registered cases) the Regional Leprosy Programme is facing a number of problems that are slowing down or even impeding MDT implementation. The more important constraints are: political unrest, lack of political commitment, poor or distorted information on the rationale and need for the introduction of MDT for control programmes, inadequate knowledge/training capabilities (particularly in francophone

countries) for leprosy control, insufficient (or improper utilization of) manpower and material resources. In order to discuss the current leprosy situation and develop strategies to implement MDT in Africa, WHO is planning to hold a meeting on "Implementation of MDT for Leprosy Control in Africa" in 1989.

Considering the high leprosy prevalence and/or the low coverage with MDT, a number of countries can be identified as priority areas requiring additional effort or intervention. For the time being, and until the political situation becomes more favourable, Angola and Mozambique will be excluded from this priority list of countries.

Country	No. of cases	Prevalence x 1000	MDT coverage as % of total registered cases	ILEP coordination	Other ILEP associations
Burkina Faso	29 178	4.10	2.1	FF}	DAHW,AL,FL
Côte d'Ivoire	43 142	4.24	0.9	FF}	
Ghana	15 695	1.12	9.9	AL	DAHW, TLMI, AL,FF,ALES, DFB,ICLL
Guinea	12 000	1.93	0.0	FF	TLMI,NSL,SLC
Madagascar	27 796	2.70	1.3	FF	AL,ALES,FL
Nigeria	165 088	1.68	3.2	NSL,DAHW,TLMI DFB	DFB,FL,ALES, ALM,FF,AL
Zaire	56 648	1.84	0.0	TLMI	FL,DAHW,SLC, ICLL
Uganda	13 309	0.96	0.0	DAHW,NSL	TLMI,AL
Angola	3 981	0.44	0.0	ALM	TLMI,AL
Mozambique	14 807	1.03	1.0	AL	SLC

With more than 600 000 registered cases, the African Region is the second largest region with a leprosy problem. Though the South-East Asia Region has more than six times the number of registered leprosy cases in Africa, it is noteworthy that at least seven of the nine endemic countries in that Region have made a political commitment to MDT implementation, and their MDT programmes are progressing satisfactorily. This makes it quite possible that after five years the present leprosy prevalence will revert, leaving Africa as the Region with the highest number of cases as well as the one with the most difficult situations in which to implement MDT.

It is because of the above-mentioned situation that the African continent becomes at present a priority within the global leprosy programme. The WHO Leprosy Unit welcomes suggestions for the development of coordinated strategies for the control of leprosy in this Region.

Region of the Americas

In this Region two situations are worth mentioning. The first and most important is the low MDT coverage in Brazil which accounts for 70.5% of all cases in the Region. This is mainly due to the late acceptance and introduction of MDT by the national leprosy programmes. However, since 1986 noticeable progress has been made particularly as a result of the coordinated support provided to the programme by ILEP member associations and WHO. However, because of the existing conditions in Brazil, one would envisage a quicker expansion of MDT coverage in that country and perhaps annual coordination/ evaluation meetings with the participation of the Government, WHO and ILEP member associations would be advisable.

The second situation in the Region of the Americas refers to the need to up-date the national leprosy registers. It seems that for certain countries (such as Mexico, Colombia, Venezuela and even Argentina) the number of registered cases requiring further treatment is still high. It is expected that with the adoption of the definition of "a case of leprosy", recommended by the WHO Sixth Expert Committee on Leprosy, this situation will be corrected.

Eastern Mediterranean Region

Because of political unrest in this Region the number of countries from which information can be obtained is limited. There are a few countries from which some information is available and in which the evaluation of the existing leprosy programme and replanning of activities may be required. These countries (i.e. Egypt, Sudan and Somalia) will be represented at the previously mentioned meeting on "Implementation of MDT for Leprosy Control in Africa", in 1989.

European Region

The magnitude of the problem is very small and information on MDT implementation is poor. However, it is accepted that practically all known cases in the Region are treated with one or another combination of drugs. In many instances patients are treated on an individual basis.

South-East Asia Region

The progress of MDT implementation is reasonably good in most countries. The Government of Burma is now committed to the implementation of MDT as recommended by WHO and a four-year plan of action has been submitted for this purpose. In spite of the substantial assistance received from ILEP member associations and from WHO, the progress of MDT implementation in Indonesia is relatively slow; it might be necessary to hold a meeting with the Government to discuss the current situation and to establish some coordinating and evaluation mechanisms that might help the future progress of MDT.

Western Pacific Region

The progress of MDT in general is good and a much higher coverage during the next five years is expected.

Conclusion

In general, and with the exception of the countries mentioned above for each region, the progress of MDT implementation is consistent though it could be quicker if more coordinated efforts were made. However, this is not applicable to most countries in the African continent where the situation is rather unsatisfactory and for which a major collaborative effort by governments, nongovernmental organizations and WHO should be made or the MDT programme in this region will lag far behind the MDT programmes in the other WHO regions.

4. IMPLEMENTATION OF MDT BY THE WHO REGIONAL PROGRAMMES

4.1 African Region (AFRO) - Dr N. Chitimba

As has been hinted at by some previous speakers, Africa has multiple intractable problems including leprosy. Although the African Region has the greatest load of the leprosy health problem, leprosy control continues to be weak as evidenced by an 8.2% of MDT coverage for registered cases. The main constraints would appear to be largely managerial and these are made worse by apparent lack of national commitment to resolve

the problem plus the usual designation of leprosy control as an activity of the voluntary agencies. At regional level the subject of leprosy was being taken up more actively. At its recent meeting, the Regional Committee considered the subject of leprosy and some guidance is expected to arise from these discussions as to the future course. Innovative reorganization of the regional efforts will further obtain extra momentum from the proposed WHO Conference on Leprosy Control in Africa in 1989 under the auspices of WHO, co-sponsored by the SMHF and supported by the ILEP and the ILA. Yet, for some countries such as Malawi, leprosy control activities are excellent by any standards. For some countries such as Nigeria, major efforts are underway to resuscitate and upgrade leprosy control activities. In the case of Nigeria, it is becoming more and more necessary to arrange for joint donor agency financial assistance regardless of the concept of "coordinating ILEP member for a country". Otherwise the situation should be avoided where the feeling exists that something good is being done without defining what it is.

4.2 Region for the Americas (AMRO) - Ms M. Valderez Borges

The problem of leprosy in this Region is characterized by a series of epidemiological realities that preclude an overall evaluation even within a given country. If overall prevalence is taken as the indicator, in 30 countries the endemic disease level is low, in six countries it is average, and in six it is high (Tables 1,2,3 and 4).

However, when morbidity is stratified according to the population in the more endemic areas, rising rates are revealed, focalizing the problems. Argentina, Colombia and Peru are cases in point (Table 5). In Argentina, the prevalence nationwide is 0.59 per thousand population, yet in five provinces which have 20% of the population it ranges from 1.1 to 5.3 per thousand. In Colombia, although the national prevalence is 0.72 per thousand, in eight departments with 20% of the population it ranges from 0.81 to 2.88 per thousand. In Peru, though national prevalence is 0.11 per thousand, in the Amazonian Region there are hyperendemic foci with as many as ten and more cases per thousand population.

The areas of high endemicity appear to coincide with the large river basins. This is seen in the Amazon region in Brazil, the region of the Lerma in Mexico, the Parana in Argentina, the Guayas in Ecuador, and the Ucayale in Peru. Moreover, it appears that the high endemicity foci are favoured by social and environmental factors that contribute to the presence and maintenance of endemic disease. Prevalence is greater where people live in precarious socioeconomic conditions. However, despite the fact that leprosy is associated with marginality, in some areas of the hemisphere with similar conditions, the endemic disease has not increased. This is the case in the Central American countries.

If prevalence of more than one per thousand is taken as the criterion, leprosy is still a public health problem in six countries of the hemisphere. Among these, Brazil (with a rate of 1.7 per thousand) should be mentioned first because of its large number of cases (234 560 as of the end of 1986), which represent 70% of the total for the Americas, and an annual registration of about 20 000 cases, or 80% of all new cases in the hemisphere. In the Amazon region of Brazil the prevalence ranges from 1 to 43 per thousand population.

A retrospective analysis of a time series of leprosy "detection" rates in the countries of the Region indicates that the endemic disease appears to be declining or has stabilized in terms of statistics relative to the total population (Table 6, Figure 1). Brazil is an exception because the situation is reversed: there has been a rising trend for the last 15 years analyzed (1970-1985), as can be seen in Table 7 and Figures 2 and 3. If the figure for 1970 is taken as the base, there has been an annual increase of 6.9% in the detection rate. If one analyzes the percentage of tuberculoid forms discovered annually in that country, the annual increase is 9%, a figure that supports the suggestion that there is a real increase in transmission of the disease in Brazil.

In Table 6 one can see the increase in new cases detected in the Region. In 1985 it was calculated that there were about 335 000 active cases on the national registers. Between 1980 and 1985, 110 000 new cases were added.

The epidemiological picture of leprosy in the Region is characterized by areas of high endemicity. These are the areas that should be given priority for intensified control measures in the next five years.

Brazil is the first priority in the Region because it has the largest number of patients and the largest land area in which the disease is considered to be highly endemic. Second priority should be given to the high endemicity areas in the other countries, in particular, Argentina, Colombia, Mexico and Peru.

Technical Cooperation Strategies

In the Region, strengthening and upgrading the health service systems is one of the highest priorities for PAHO technical cooperation. This priority has immediate application to the leprosy control programmes, since the implementation of multiple drug therapy involves getting the health infrastructure to provide the care needed for the various therapeutic regimens. Consequently, in 1987 and 1988 technical cooperation to the countries focused on strengthening the health infrastructure through training and evaluating the performance of personnel, with a view to the implementation of multidrug therapy.

Since several countries in the Region have decentralized technical and administrative responsibility to the political divisions (states, provinces, departments, etc.), the technical cooperation strategy should involve active participation of the health authorities at the corresponding levels with a view to securing decisions to implement MDT. This strategy is particularly important in the low-prevalence countries where the central government is not very motivated to address the leprosy problem. It is easier to enlist the interest of health authorities who are responsible for areas where the problem is evident and has an impact on the community. Thus it is essential to apply epidemiological stratification in order to identify the high-endemicity areas and to programme control measures on the basis of this information.

In Argentina, Colombia, Mexico and Peru where the high endemicity areas are already well identified, the strategy for controlling the endemic disease should include the decentralization of management, monitoring and logistic support, and the supervision and training of personnel to the high endemicity areas.

In the case of Brazil, since almost the entire national territory has a high level of endemicity, the Ministry of Health plays a very important role in the normative decisions that are taken. In the field, however, very little can be done without involving and raising the consciousness of the state departments of health. It is essential, also, that there be close coordination and collaboration between PAHO and the nongovernmental agencies if the best possible results are to be gained from technical cooperation. This cooperative relationship is essential so that the governments will understand that PAHO and the NGO's work in a spirit of mutual collaboration, not competition.

Status of multidrug therapy

In the Region, approximately 19 000 patients are under treatment with therapeutic schemes recommended by WHO and nearly 5000 under post-MDT surveillance. Recognition and acceptance of the advantages of multiple drug therapy is gradually increasing in the national health service systems. This is particularly evident in Brazil, where it was instituted in either one or two health units in 12 of the states during 1987.

The Caribbean experience has demonstrated the feasibility of implementing multiple drug therapy with well-trained paramedics (public health nurses) with two to three annual supervisory visits by a specialist. The Caribbean countries began to implement MDT in 1981 with treatment of approximately 500 patients in the West Indies, 3000 in the French territories, 762 in Trinidad and Tobago, and 700 in Guyana. After five years of treatment, prevalence in these countries had been reduced by more than 60%. In Trinidad and Tobago, for example, MDT was begun in 1981 with the treatment of 762 patients, and by 1987 there were only 102 patients on the register. Recurrence in this country is less than 1% per year. From the Caribbean example, it may be concluded that it is operationally feasible to control the endemic disease effectively and to reduce morbidity to insignificant levels. It can also be concluded that adequate polychemotherapy can eradicate the endemic disease in those countries that have very low prevalence.

Cuba is a special case: since 1977 it has been implementing monotherapy by using either rifampicin or dapsone and yet, despite its excellent health infrastructure, it has not succeeded in reducing the incidence.

Impediments to the implementation of polychemotherapy in the Region continue to be the same ones reported on other occasions:-

- Difficulties in obtaining rifampicin and clofazimine;
- Application of several different polychemotherapeutic schemes without any previous study to determine their effectiveness;
- Lack of efficiency on the part of the health infrastructure in applying the supervised treatment and following up the cases.

These problems are gradually being overcome with technical and financial support through the establishments of tripartite agreements between the governments, nongovernmenal agencies and PAHO. Our continued success in implementing MDT depends on all of us coordinating our efforts.

In order to achieve success in the Region in the implementation and extension of coverage with multiple drug therapy over the next five years, the following are needed:

- Epidemiological stratification of the problem to define the areas where endemicity is highest and are thus of greatest priority.
- Establishment of plans of action which assign priority to high endemicity areas and involve local health service authorities as well as health manpower training institutions, e.g. universities.
- Decentralization of the programming, management, monitoring, supervision, logistic support, training, and evaluation of the control programmes to the political divisions in those countries with high endemicity areas.
- Establishment of mechanisms that will promote unification of criteria and technical objectives among nongovernmental organizations as well as coordination with PAHO/WHO so that collaboration with the governments is harmonious.
- Promotion of intensive training of personnel at the local level in health services through in-service training, workshops, short courses, seminars and performance evaluation.

- Promotion of incentives for personnel involved in local level services through subsidies for field research, donations of equipment, improvement of the physical working environment, fellowships and salary supplements.

- Promotion of epidemiological studies to determine the real increase in the endemic disease in high prevalence areas.

This is an ambitious agenda. Its achievement is a challenge for all those who are really interested in gaining effective leprosy control in the developing countries.

Table 1. Countries and territories of the Region of the Americas with leprosy prevalence of 1 or more cases per 1,000 population, 1986

Country or territory	Population (in thousands)	No. of cases registered	Prevalence per 1,000 pop.
Brazil	135 564	234 560	1.7
Guadalupe	334	1 114	3.3
French Guiana	66	255	3.9
Martinique	328	1 283	3.9
Paraguay	3 424	4 738	1.4
Turks and Caicos	10	15	1.5
TOTAL	136 716	241 965	

Source: Information received from the countries.

Table 2. Countries and territories in the Americas with leprosy prevalence of 0.5 to 0.9 per 1 000 population

Countries or territories	Year	No. of cases regis.	Prevalence per 1000 pop.
Argentina	1987	16 852	0.59
Colombia	1984	20 602	0.72
Cuba	1987	5 745	0.61
Saint Lucia	1986	73	0.53
Suriname	1987	306	0.75
Venezuela	1987	12 540	0.68

Source: Information received from the countries.

Table 3. Countries and territories in the Americas with leprosy prevalence of 0.10 to 0.49 per 1000 population, latest information available

Countries or territories	Year	No. of cases regis.	Prevalence per 1000 pop.
Anguilla	1986	1	0.14
Antigua and Barbuda	1986	8	0.10
Bahamas	1985	41	0.18
* Bolivia	1985	1 590	0.24
Costa Rica	1985	670	0.25
Dominican Republic	1987	2 972	0.44
Ecuador	1985	2 950	0.31
Guyana	1985	190	0.20
* Haiti	1985	746	0.11
Mexico	1987	16 810	0.21
* Peru	1985	2 304	0.11
Saint Vincent and Grenadines	1986	14	0.12
Uruguay	1985	709	0.23

* Partial information.
Source: PAHO/WHO information received from the countries.

Table 4. Countries and territories in the Americas with leprosy prevalence of less than 0.1 per 1 000 population

Country or territory	Year	Population (in thousands)	No. of cases registered	Prevalence 1 000 pop.
Barbados	1986	25	10	0.04
Belize	1986	156	0	0.00
Bermuda	1985	79	1	0.01
Canada	1985	25 150	190	0.01
Cayman Islands	1985	19	0	0.00
Chile	1985	11 780	12	0.00
Dominica	1986	79	3	0.04
El Salvador	1985	4 999	184	0.03
Grenada	1986	108	5	0.05
Guatemala	1985	7 740	275	0.05
Honduras	1985	3 691	96	0.02
Jamaica	1987	2 372	151	0.06
Montserrat	1986	13	0	0.00
Nicaragua	1985	2 771	142	0.05
Panama	1985	2 180	141	0.06
St. Christopher	1986	44	0	0.00
Trinidad and Tobago	1987	1 204	102	0.08
United States	1985	238 020	5 542	0.02

Source: PAHO/WHO information received from the countries.

Table 5. Approximate population of Latin America and the Caribbean living en areas with leprosy prevalence of 1 or more per 1000 population

Country	Total population (in thousands)	Population areas with 1 x 1000 pop. (in thousands)	% population in areas 1 x 1000/pop.
Argentina	30 564	6 113	20
Brazil	135 564	95 416	70
Colombia	28 714	5 743	20
Cuba	10 038	2 108	21
Dominican Republic	6 243	3 309	53
Ecuador	9 378	656	7
French Guiana	66	66	100
Guadalupe	334	334	100
Guyana	953	477	50
Martinique	328	328	100
Mexico	78 996	2 765	3,5
Paraguay	3 424	2 864	84
Turks and Caicos	8	8	100
Venezuela	17 317	4 676	27
TOTAL	321 927	124 863	39

Source: Information received from the countries.
Health Conditions in the Americas, 1981-1984
PAHO Scientific Publication No. 500

Table 6. Number of new cases and detection rates per 100 000 population, Region of the Americas, all countries, 1960-1985

Year	Number of cases	Rate
1960	9 879	27.1
1961	9 715	18.5
1962	9 348	33.6
1963	9 595	26.0
1964	10 716	17.5
1965	10 028	5.6
1966	8 245	9.7
1967	9 852	14.7
1968	9 249	11.8
1969	9 439	12.3
1970	9 541	15.3
1971	9 880	11.4
1972	10 376	12.6
1973	11 573	10.4
1974	11 780	14.9
1975	12 637	13.0
1976	13 229	12.1
1977	12 627	9.4
1978	15 232	13.7
1979	18 338	8.3
1980	19 054	9.4
1981	20 890	8.4
1982	20 501	8.0
1983	22 167	6.9
1984	22 292	7.0
1985	22 553	6.4

Source: Informes estadísticos de los países

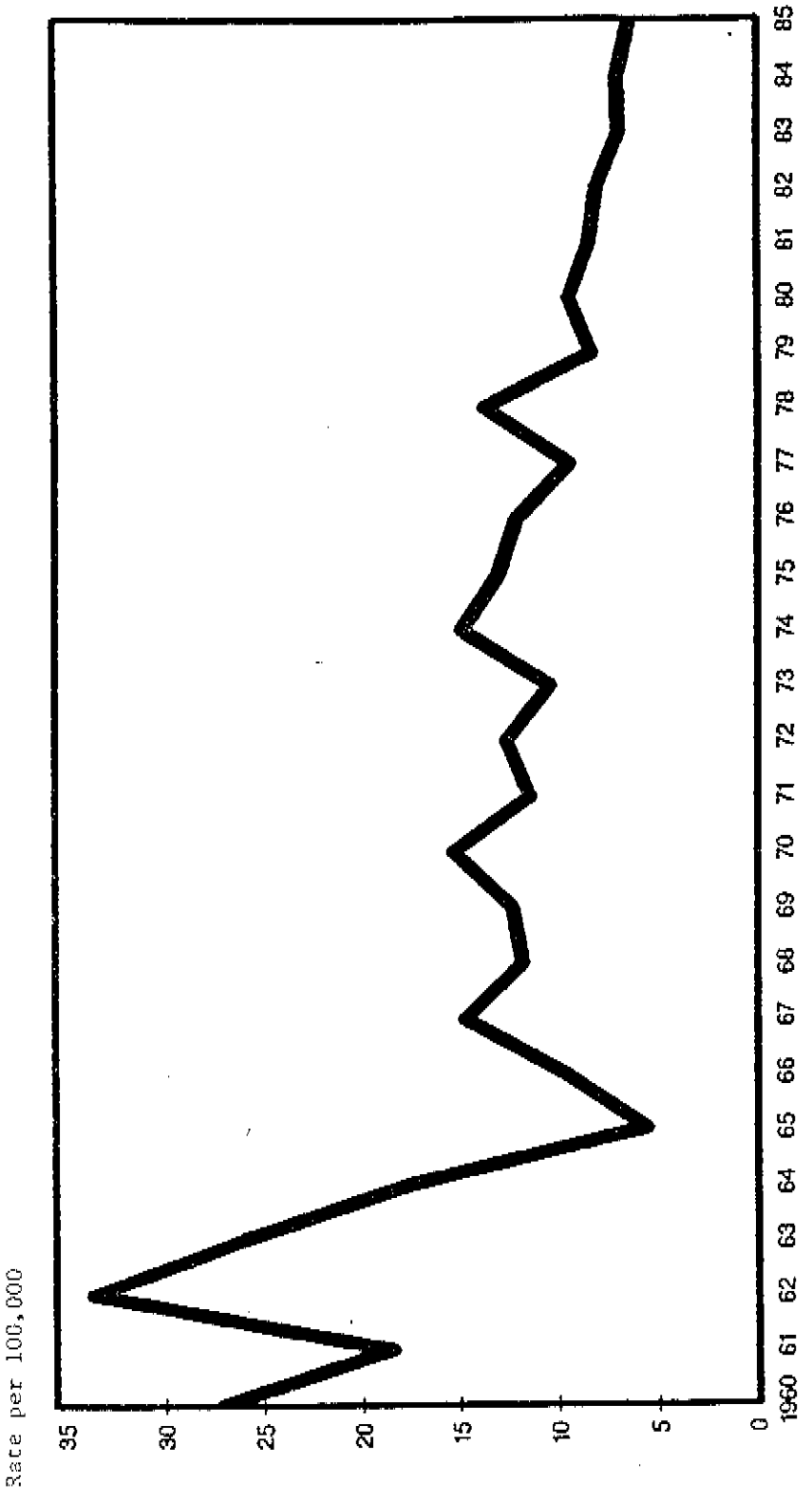
Table 7. Case detection rates per 100,000 population, Brasil, 1960-1985

Year	Number of cases	Rate
1960	6 762	9.6
1961	6 163	8.5
1962	5 542	7.4
1963	5 744	7.5
1964	5 588	7.1
1965	5 879	7.3
1966	4 801	5.8
1967	5 439	6.4
1968	5 568	6.2
1969	5 618	6.2
1970	5 470	5.9
1971	5 950	6.2
1972	6 411	6.5
1973	7 831	7.8
1974	8 199	7.9
1975	9 300	8.7
1976	9 647	8.8
1977	9 133	8.1
1978	11 993	10.4
1979	14 375	12.1
1980	14 515	12.0
1981	17 133	13.8
1982	16 994	13.4
1983	18 759	14.5
1984	18 859	14.2
1985	19 265	14.3

Source: Statistical report, National Division of Public Health Dermatology.

FIGURE 1

EVOLUTION OF RATES OF "DETECTION OF CASES" PER 100,000 INHABITANTS,
ALL COUNTRIES, 1960-1985



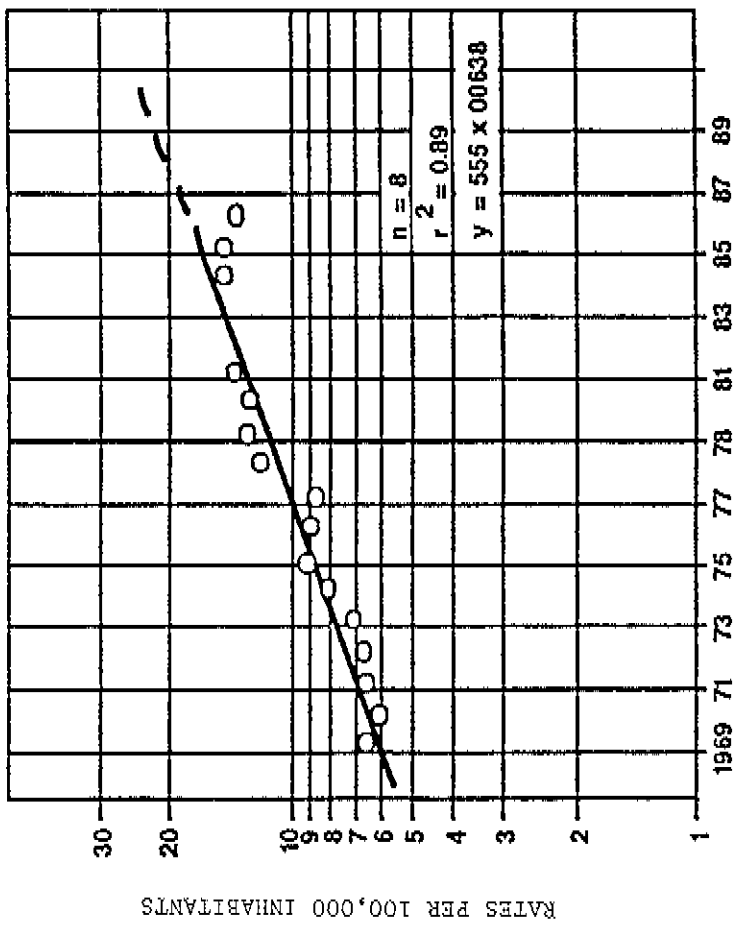
Source: Information received from the countries

FIGURE 2

EVOLUTION OF HANSEN'S DISEASE IN BRAZIL

NEW ANNUAL CASES DETECTED

1969-1986 (EXPONENTIAL ADJUSTMENT)

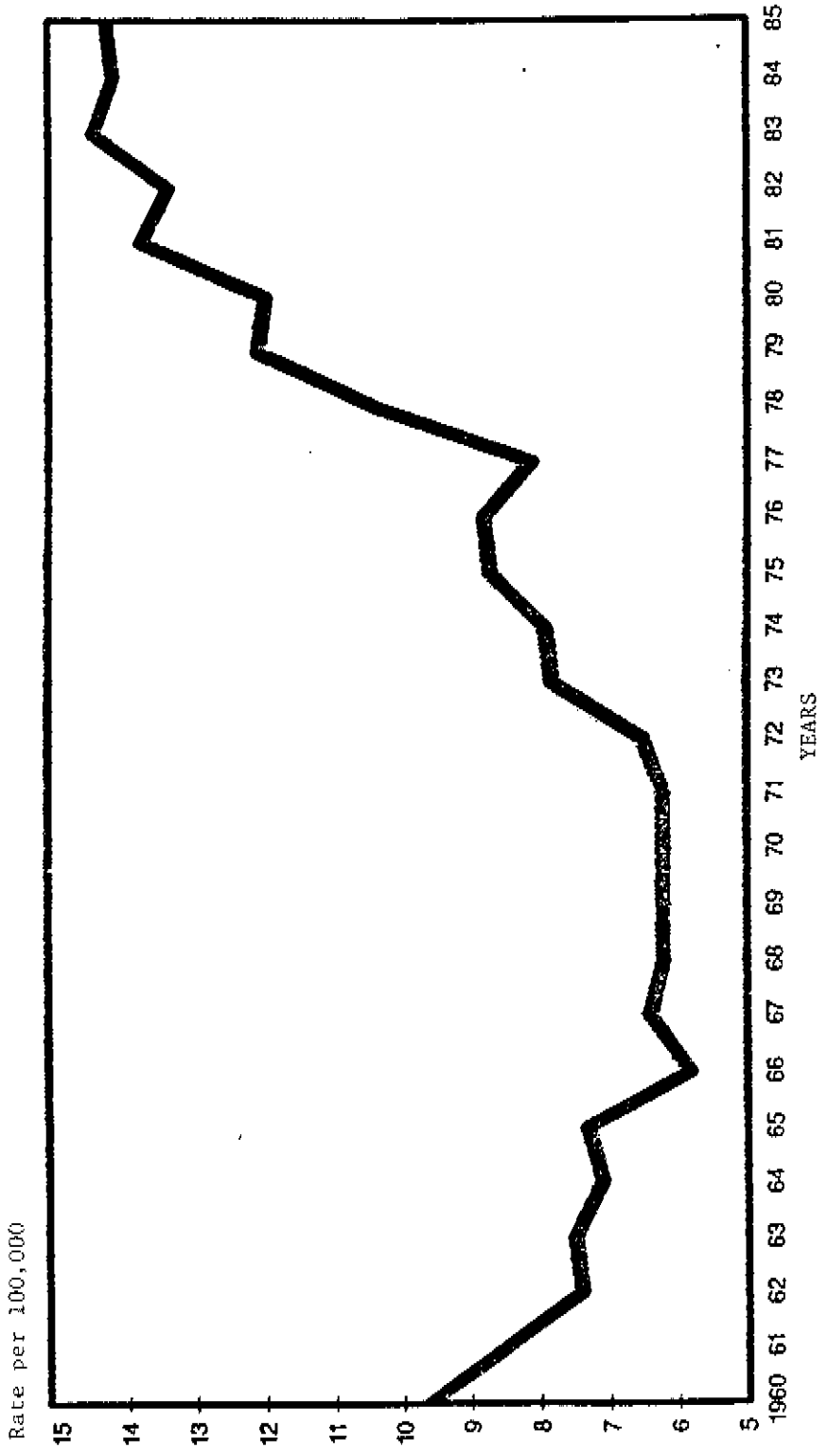


SOURCE : BRAZIL'S 1987 STC REPORT (DR. M. ZUNIGA)

FIGURE 3

EVOLUTION OF RATES OF "DETECTION OF CASES" PER 100,000 INHABITANTS

BRAZIL, 1960-1985



SOURCE: INFORMATION RECEIVED FROM THE COUNTRIES

4.3 The Eastern Mediterranean Region (EMRO) - Dr N. Neouimine

Leprosy is one of the important health problems in the countries of the Eastern Mediterranean Region. Table 1 shows the number of registered cases and the prevalence (on the basis of the registered cases) in each country; however, in EMRO, as in most other regions, these figures are an underestimation of the cases. Total number of estimated cases of leprosy in the Region is more than 300 000.

The table shows that the leprosy situation is particularly serious in Sudan, Pakistan, Egypt, Somalia, Yemen, Morocco and Iran.

Multidrug therapy has been accepted as a policy in most countries but this does not mean that it is being implemented everywhere at 100%. The disease persists mostly in the areas of the Region which are underserved and large numbers of cases remain undetected and some are not effectively treated (even if registered). The following gives a brief account of the situation in some of the countries.

Table 1: Leprosy in countries of the Eastern Mediterranean Region
(Registered cases)

	Country	Population in 1000s	Registered Leprosy cases	Year	Prevalence (per 1000)
1.	Afghanistan	17 672	1 596	1986	0.09
2.	Bahrain	419	41	1985	0.10
3.	Cyprus	662	154	1985	0.23
4.	Democratic Yemen	2 225	205	1980	0.09
5.	Djibouti	430	69	1975	0.15
6.	Egypt	48 575	23 736	1984	0.49
7.	Iran	48 000	10 769	1987	0.22
8.	Iraq	15 078	500	1980	0.03
9.	Lebanon	3 000	45	1984	0.02
10.	Libya	3 637	1 300	1987	0.35
11.	Moroco	21 200	5 923	1986	0.26
12.	Oman	1 500	360	1980	0.30
13.	Pakistan	96 000	31 000	1988	0.32
14.	Saudi Arabia	10 200	1 666	1987	0.16
15.	Somalia	5 423	3 313	1987	0.61
16.	Sudan	20 945	41 976	1985	2.0
17.	Syria	10 267	124	1985	0.01
18.	Tunisia	7 012	176	1984	0.03
19.	United Arab Emirates	1 265	29	1984	0.02
20.	Yemen	7 114	2 371	1987	0.33
Total of 20 countries		320 624	125 273		0.39

Afghanistan

The total number of registered leprosy cases in 1986 was 1596. Definitely this is a big underestimation, because since the beginning of the conflict in the country, many Afghan refugees entered Pakistan and Iran and considerable numbers of leprosy cases have been seen among the refugees in both countries. There is a National Leprosy Control Programme but cases are being looked after mostly by external NGOs with the support of the Ministry of Health.

There is no information on the percentage of patients under MDT.

Egypt

The total number of registered cases was 23 736 in 1984 but, on the basis of a survey, the estimated number of cases in the country is between one hundred to two hundred thousand. In 1986, 11 119 patients were receiving MDT. Leprosy control is part of the activities of the Ministry of Health and at the present time the treatment of leprosy cases is undertaken in 18 centres in various parts of the country. The Leprosy Control Programme is gradually being integrated into primary health care.

Iran

In 1987, the total number of registered cases was 10 769 but the Iranian authorities believe that there are more than 40 000 leprosy cases in the country. Leprosy control is carried out by the Leprosy Control Organization which is part of the Ministry of Health. The organization has two leprosaria and 12 out-patient clinics.

Most of the patients are under MDT but the regularity of treatment is not known. Recently, the Organization has started to use Blister Calendar Packs to ensure the compliance of MDT.

Libya

Total number of registered cases until the end of 1986 had been about 1 300. MDT is used for all cases, even for those patients who were receiving monotherapy before 1980.

There is a large, foreign run leprosarium with about 120 beds. Paucibacillary cases are hospitalized for three weeks and multibacillary for six months. They are then moved to an out-patient scheme.

Pakistan

The total number of registered cases was around 31 000 in early 1988. About 50% of these are under regular MDT programmes. There is a unit of leprosy control in the Ministry of Health in Islamabad but most of the activities are coordinated by the Marie Adelaide Leprosy Centre which is a nongovernmental organization with headquarters in Karachi. According to the studies undertaken, only a small proportion of patients on MDT take the treatment irregularly and the relapse rate among those who have completed MDT is 0.4 per thousand.

Saudi Arabia

There is no official report of the number of cases but the estimated number is 5000. Most cases are treated in Ibn Sina Hospital located at Haddah on the old Makkah - Jeddah Highway. The total number of cases (in-patients) under treatment in the year 1406H (1986) was 127 Saudi citizens and 135 non-Saudis. In 1407H (1987) these numbers reduced to 95 Saudis and 108 non-Saudis because some patients discontinued treatment. The total number of patients treated (out-patients and in-patients) in 1986 was 1 635 and in 1987, 1 666. During this period there were 186 admissions and 148 discharges from the hospital. Three patients died. The majority of patients are male (M/F = 5/1). All patients are under MDT with longest follow-up possible.

Somalia

According to a report prepared in December 1987, the total number of cases under regular multidrug therapy was 1 031 with 75% regularity. Leprosy control services are being carried out in seven regions known to be endemic.

The estimated number of leprosy cases in the country is 12 000 out of which 3 313 have been registered.

Leprosy control is carried out by the Ministry of Health as part of primary health care activities. At the present time, there are about 500 patients under treatment in the leprosy hospital in Jilib, south of the country.

Sudan

Reports prepared in 1985 show than 41 976 patients are under treatment. The actual prevalence is expected to be much higher. The exact percentage of patients receiving MDT is not known. Control efforts are fragmented and uncoordinated. The Ministry of Health aims at gradually improving case detection and the use of MDT instead of DDS alone. This is in progress in five northern regions but in three southern regions, this policy cannot be implemented because of security constraints. High prevalence figures of more than seven per thousand are reported from Kordofan in the west and Equatoria in the south.

Yemen

Up to October 1987, the total number of living registered patients was 2 371. All of them had received or were receiving MDT. The estimated number of cases in this country is 8 000 - 10 000.

The Leprosy Control Programme is a vertical programme with some coordination with the PHC units. Treatment of the majority of cases is undertaken in the City of Light which is a National Leprosy Control Centre located near Taiz in the south of the country.

There is no information about Kuwait, Jordan and Qatar (total population of these three countries is about 4.5 million).

4.4 South-East Asia Region (SEARO) - Dr I. Islam

4.4.1 Introduction

Despite recent remarkable advances in the technology of leprosy control, the disease continues to be an important public health problem in nine out of eleven countries in the WHO South-East Asia Region with the exception of the Democratic Republic of Korea and Mongolia in the temperate zone. The disease can be traced back to 2500 years in the Region. Reference to leprosy in India is found in ancient writings compiled as early as 600 B.C.

The terrain of endemic countries of the Region varies widely ranging from the mountainous regions of Bhutan and Nepal, the alluvial plains of Bangladesh and India to thousands of islands in Indonesia and the Maldives with inherent operational difficulties in programmes.

4.4.2 Epidemiology

An estimated case-pool of 5.36 million leprosy patients in the South-East Asia Region accounts for about 50% of the total estimated cases across the world. India alone, with approximately four million cases, has 75% of the total case-load in South-East Asia. Of the five million patients under treatment at the global level, 75% are in the countries of the South-East Asia Region.

Bangladesh

Estimated patients	150 000
Estimated prevalence rate	1.5 per 1000
Total patients registered	65 000
Registered prevalence rate	0.65 per 1000
Total patients released from treatment	16 000
MB rate	20%
Deformity rate (Gr. II & III) among new patients	23%
Child rate among new patients	8%
New patients detected annually	4 000
Patients under MDT	30%

Bhutan

Estimated patients	8 000
Estimated prevalence rate	5.7 per 1000
Total patients registered	4 000
Registered prevalence rate	2.8 per 1000
Total patients released from treatment	2 790
MB rate	40%
Deformity rate (Gr. II & III) among new patients	25%
Child rate among new patients	8%
New patients detected annually	100
Patients under MDT	60%

Burma

Estimated patients	700 000
Estimated prevalence rate	24 per 1000
Total patients registered	279 000
Registered prevalence rate	7.2 per 1000
Total patients released from treatment	57 000
MB rate	35%
Deformity rate (Gr.II & III) among new patients	37%
Child rate among new patients	18%
New patients detected annually	6 500
Patients under MDT	30%

India

Estimated patients	4 million
Estimated prevalence rate	5 per 1000
Total patients registered	3.27 million
Registered prevalence rate	4.6 per 1000
Total patients released from treatment	2.6 million
MB rate	20%
Deformity rate (Gr.II & III) among new patients	15%
Child rate among new patients	15%
New patients detected annually	500 000
Patients under MDT	40%

Indonesia

Estimated patients	250 000
Estimated prevalence rate	1.5 per 1000
Total patients registered	125 346
Registered prevalence rate	0.78 per 1000

Indonesia (contd.)

Total patients released from treatment	not known
MB rate	35%
Deformity rate (Gr.II & III) among new patients	24%
Child rate among new patients	13%
New patients detected annually	4 000
Patients under MDT	25%

Maldives

Estimated patients	1 800
Estimated prevalence rate	12 per 1000
Total patients registered	1 600
Registered prevalence rate	8.2 per 1000
Total patients released from treatment	1 000
MB rate	12%
Deformity rate (Gr. II & III) among new patients	3%
Child rate among new patients	16%
New patients detected annually	60
Patients under MDT	80%

Nepal

Estimated patients	100 000
Estimated prevalence rate	7 per 1000
Total patients registered	65 000
Registered prevalence rate	4.3 per 1000
Total patients released from treatment	9 000
MB rate	35%
Deformity rate (Gr.II & III) among new patients	25%
Child rate among new patients	4%
New patients detected annually	3 000
Patients under MDT	50%

Sri Lanka

Estimated patients	14 000
Estimated prevalence rates	1 per 1000
Total patients registered	11 350
Registered prevalence rate	0.8 per 1000
Total patients released from treatment	9 000
MB rate	27%
Deformity rate (Gr.II & III) among new patients	6.2%
Child rate among new patients	16%
New patients detected annually	1 194
Patients under MDT	100%

Thailand

Estimated patients	200 000
Estimated prevalence rate	5 per 1000
Total patients registered	157 000
Registered prevalence rate	3 per 1000
Total patients released from treatment	126 700
MB rate	52%
Deformity rate (Gr.II & III) among new patients	11%
Child rate among new patients	4%
New patients detected annually	3 200
Patients under MDT	60%

4.4.3 Strategy

Implementation of MDT within the framework of the integrated approach of primary health care is the key strategy for control of leprosy in the region. MDT has already been introduced in all the endemic countries of the region and is in different stages of implementation. In some hyperendemic areas, of course, vertical programmes are still being continued. The proportion of patients being treated with WHO-recommended multidrug regimens in the countries are as follows:-

Bangladesh	30%
Bhutan	60%
Burma	30%
India	40%
Indonesia	25%
Maldives	80%
Nepal	50%
Sri Lanka	100%
Thailand	60%

Thus, 52% of the total cases under treatment in the Region have been brought under MDT.

4.4.4 Outcome/Trend

In recent years Bangladesh has developed adequate infrastructures for the implementation of MDT programmes at the peripheral level, including development of a well-trained category of manpower with a target of 5 000 cases to be brought under MDT every year over the next five-year period. Thirty per cent of patients under treatment are under MDT. An urban control programme has started showing a downward prevalence rate.

Leprosy is showing a declining trend in Bhutan. After the introduction of MDT, the case load dropped by 60%. The disease tends to focalize in pockets, the multibacillary forms predominate and the proportion of new cases among children is low. The Government expects to eradicate the disease by the end of this century.

In Burma, the WHO recommended MDT regimen was introduced in 1987 and 30% of the patients are now under treatment with MDT. One hundred percent coverage with MDT is planned for 1991.

In India, out of 76 districts which are hyperendemic, MDT has been introduced in 48 districts with 1.34 million patients. Forty percent of the patients are under MDT. There has been an impressive decline in the prevalence rate of over 80% in all the seven districts which have completed the four-year intensive phase of MDT with a case-load of 325 000 and which have entered a maintenance phase for five years. The prevalence rate of leprosy cases in those seven districts before and after completion of intensive care is shown below:

Sl.No.	District	State	Prevalence rate before MDT	Prevalence rate as in August 1987	% age decline
1.	Wardha	Maharashtra	11.1	1.8	83.8
2.	Purulia	West Bengal	19.2	7.7	60.0
3.	Srikakulam	Andhra Pradesh	18.1	2.6	85.6
4.	Ganjam	Orissa	13.8	2.4	82.6
5.	Vizianagaram	Andhra Pradesh	13.6	2.4	82.4
6.	North Arcot	Tamil Nadu	18.1	4.03	77.8
7.	Baroda	Gujarat	5.2	1.4	77.0

It is planned that MDT will be introduced into all the 76 high endemic districts by 1990. This will cover approximately 60% of the patients. It is also envisaged that the remaining 125 endemic districts will be under MDT by 1995.

In Indonesia, out of 133 hyperendemic sub-districts in 11 provinces, MDT was introduced in 56 sub-districts and 25% of the total patients under treatment have been put under MDT. The remaining 77 sub-districts will be covered by MDT in 1989. In 1982, a prevalence survey was conducted in Indonesia.

In the Maldives, the prevalence rate has declined from 12 to 3.4 per 1000, annual new case detection rates have fallen from 2.3 to 0.4 per 1000; the age of onset has shifted to the right, and incidences of new cases among children has declined from 32% to 16%. The deformity rate among the new cases detected is also showing an upward trend, all pointing towards control of the disease. The fact that since 1982, the number of new cases detected annually has consistently been below 700 and the deformity rate among new cases is very low, suggests that the new case detection rate is now approximating true incidence. Assisted by WHO the country has prepared a plan of action to achieve zero transmission by 1995.

In Nepal, MDT was introduced in 57 districts bringing 50% of the patients under multidrug regimen. It is planned to extend MDT to all 75 districts by 1990 and to reduce the prevalence rate from seven to one per 1000.

In Sri Lanka, 100% of the patients are under MDT. The steadily rising annual case detection rate and the increase in child rates in the newly detected cases suggest that the disease transmission has not yet been interrupted, but the very low deformity rate of 6.2% among the new cases indicates that the case detection rate is approaching the true incidence. They have formulated an Action Plan envisaging eradication of the disease before the turn of the century.

In Thailand, 60% of patients are under MDT. With the declining prevalence rate and decreasing child rate and deformity rate among the new cases, the occurrence of an increasing number of new cases indicates more efficient case-detection and true incidence. Extension of MDT to all the 73 provinces of the country by 1989 is under execution.

5. Constraints

Technical

- classification of the disease
- persistance of lesions
- reversal reactions and relapse
- complications
- disability prevention

Operational

- supervised part of MDT administration
- monitoring of the programme at the country level
- regularity of drug intake
- trained manpower
- availability of drugs and transport
- laboratory services
- infrastructure

Administrative

- community participation
- financial resources

6. Regional level monitoring

WHO provides the country programmes with technical and financial support by the procurement of drugs, transport, etc., and by training. It is essential that the programme must be monitored from the Regional Office very closely and in an organized manner and for this the following actions have been taken:

- The endemic countries have been requested to formulate a five-year plan of action for 1988-1992 for implementing the MDT programme in a phased, planned and coordinated manner with targets and forward the same to the Regional Office so that impact assessment is possible and external resources can be mobilized for supporting the programmes.

- A standard and uniform MDT Progress Reporting Form has been developed and circulated to the countries to be submitted to WHO/SEARO every six months in March and September every year enabling it to monitor the progress of the programme at the country level.

- Training of all categories of staff oriented to MDT implementation is being supported and monitored.

- Every programme at the country level is encouraged to establish its own recording, reporting and data processing system to enable peripheral level reports to be collected, collated and compiled and fed back to the workers and the community.

- Evaluation of the programme to measure the epidemiological impact will be undertaken every year.

- Steps have already been taken to adopt a systematic approach to prevent and limit disability and for community-based rehabilitation of the disabled as an integral part of every control programme as sub-strategies.

- Implementation of the recommendations of the Intercountry Seminar on Implementation and Evaluation of Multidrug Therapy, held in SEARO, New Delhi, India from 7 to 11 December 1987 are being followed up in earnest.

- In order to support the programmes, procurement of the drugs, particularly rifampicin and clofazimine which are expensive, has been negotiated through LEP/HQ.

5. DISCUSSION AND CONCLUSIONS

The discussion centred largely on the second objective of the meeting. To facilitate the discussion, the following three points were made:

1. Coordinating mechanisms
2. Widening MDT implementation
3. Providing more comprehensive patient care.

Points 1 and 2 were discussed together with the following conclusions:

1. WHO, which is in constant contact with governments, should periodically inform NGOs and voluntary agencies of the expressed needs of individual countries in the leprosy field.

2. Regular consultations among interested parties is beneficial and should be encouraged.

3. An African meeting jointly co-sponsored by WHO, the Sasakawa Memorial Health Foundation and possibly ILEP with participants from governments is to be convened in 1989 to decide on essential mechanisms for facilitating leprosy control on the African continent.

4. The utilization of existing general services staff for the distribution of drugs is to be encouraged in an effort to expand MDT implementation.

5. Modifications of current instructions in the method of MDT delivery will become necessary, e.g. non-insistence on slit skin smears taken under certain situations.

6. ILEP is to re-examine coordination in order to make it more effective.

7. There should be more coordination in the production of leprosy literature and the sharing of relevant information.

On the subject of providing more comprehensive patient care, the following conclusions were drawn:

1. Multidrug therapy should be accompanied by physical disability prevention.

2. Health education was a pre-requisite for the success of MDT.

3. Rehabilitation should be simple and community based.

4. MDT should have priority over rehabilitation

5. Prevention and/or care for social disability is to be encouraged when affordable.

THIRD COORDINATING MEETING ON IMPLEMENTATION
OF MULTIDRUG THERAPY IN LEPROSY CONTROL

The Hague, 13 September 1988

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