

PRINCIPLES OF CONTROL OF LEPROSY AND NATIONAL LEPROSY CONTROL PROGRAMME

By

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The Need for the control: Based on various criteria and with some reservations, the estimated leprosy cases in the world were about 5 million in number in 1946. At present they are about 12 to 15 million, and the world figures are rising (Editorial, B M J 1964). A part at least of this increase in the incidence is due to better recording. Because of factors such as non-availability of information from some countries this estimate appears to be a conservative one (Bechelli, 1966(i)). In view of the findings of the WHO Leprosy Advisory Team in Africa, America and Asia, it is estimated that the prevalence rate in the majority of countries would be at least double the known rate (WHO, 1966). The most optimistic appraisals do not suggest that the incidence is less than it was 20 years ago (Hasselblad, 1967). It is possible to control the disease. The measures employed in some developed countries, which have eradicated the infection even in the absence of specific drugs, can be judiciously applied to our country after taking into consideration the size of the problem, resources of finance and personnel and our traditional beliefs or attitude towards the disease. Thus evolutionary study of various measures employed in the past is necessary.

Evolutionary Sequence of Control Measures: From earliest times segregation was introduced and maintained. The disease, however, continued unabated as only advanced cases could be recognised then and early cases continued to spread the infection in the communities. With better knowledge, early cases could be diagnosed, and isolated with the help of legislation. This only led to the concealment of the disease till the advanced stage was reached. The legislation was, therefore, made lenient. Propaganda was deemed necessary to encourage more people to come forward for survey, and treatment (PIS Triad of Muir). Early detection increased remarkably but the programme failed because of ineffective therapy (Chualmoogra). The advent of sulphones offered hope of complete control

However, the number of leprosy cases continued to rise. The reason was that only 3 lakhs out of the estimated 25 lakhs were taking treatment. This was attributed (Wardekar, 1961) to social ostracism operating generally which prevents "thousands of early cases from taking treatment". In Bombay, however, investigation (Surti, 1962) revealed that the fear of social ostracism does not operate in the great majority of patients, who hail from low income groups, but only in a small minority hailing from the upper social strata and these too were surprisingly, taking regular treatment, though not from public institutions. It is the lack of knowledge about the early signs of the disease, its mode of transmission and its

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curability by sulphones which is responsible for the majority of patients not taking treatment, rather than the social ostracism.

Hence for the control of the disease, Health Education accompanied or followed by case-detection and treatment is essential

EDUCATION

“The objective of health-education is to evoke in the public at large and the patients and their families, a reasoned attitude towards leprosy which neither exaggerates the dangers of leprosy nor minimises them” (Rio Congress, 1963).

The pattern of education will depend on the area of campaign, whether urban or rural (Mehandale, 1965). Leading persons like political and social workers municipal coroprators and assembly members and government officials should be given information about leprosy so that they can give recognition and emphasis to the control programs. General practitioners are extremely helpful in screening their patients for leprosy, treating them and observing the contacts of leprosy patients. Refresher courses should be arranged for practitioners at their request. Medical officers in public and private concerns, railways, factories, work-shops and mills are helpful in screening leprosy patients. So are the doctors in municipal and government dispensaries and hospitals. Students of social sciences, nursing, dermato-venerology, neurology, orthopoedic surgery and public health should be given training in leprosy. Finally students and teachers of schools and colleges, patients themselves and their contacts have been found, when adequately educated, immensely effective in drives for early detection.

Channels of dissemination of information in leprosy:- (Surty, 1960).

EDUCATION

1	2	3	4	5	6
Illustrations	Written material for publications	Lectures, Seminars & Talks	Films	Radio Talks	Exhibitions (stalls)
	1) News papers & magazines 2) Medical Journals 3) Goodwill advertisements	1) Doctors 2) Students 3) Welfare & other organisations.	1) Schools & Colleges 2) Cinemas 3) Mills 4) Endemic areas.		1) Models 2) Charts 3) Posters

(a) Posters : : 1) Hopitals 2) Clinics 3) Bus-stands 4) Schools & Colleges 5) Rly. Stations	(b) Folders, leaflets and Booklets : : 1) Patients & relatives 2) Schools & Colleges 3) Exhibition
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A committee for the revision of school and college text-books on Physiology and Hygiene should specifically include leprosy as one of the subjects.

CASE-DETECTION

Education is followed or accompanied by detection of cases by different programs. Due to better elucidation of the disease process and elicitation of clinical signs, detection of early cases has become possible. Diagnosis can be made by para-medical personnel but, as far as possible, should be confirmed by a medical officer. (W H O, 1966).

The choice of case-detection programmes should be related to the prevalence rate in the area. For the prevalence rate of less than 1:1000 examination of only household contacts of leprosy cases is enough. For the rate of 1:1000 to 10:1000 household contacts, school children, military personnel and other selected groups should be included in the survey and for the rate of over 10:000 mass surveys must be undertaken (Bechelli, 1966). Though children, contrary to earlier views, are not more susceptible to the infection than the adults are (Badger, 1964 & Katdare 1966), surveys of school children are important because 1/4th of the total patients of the world are children (Editorial, B M J, 1964 (ii).

TREATMENT

- | | | | | |
|------|------------|-----|-----------------|---------------------------|
| I. | Curative | — | Chemotherapy | |
| II. | Corrective | — | Rehabilitative | Physiotherapy |
| | | | Surgery | { Reconstructive |
| | | | | { Cosmetic. |
| III. | Preventive | (a) | for the disease | { Minimising contact |
| | | | | { B C G Vaccination |
| | | (b) | for deformities | { Chemoprophylaxis |
| | | | | Preventive physiotherapy. |

Chemotherapy: The aim of drug treatment, from the point of view of control, is to reduce the infectivity of the infection, and diminish the chance of development of deformities. "In an assessment made in Bombay by statistical methods, it was found that 34.06% of the family members of lepromatous (infectious) cases were infected in those homes in which the infectors did not take any treatment, 19.03% were infected in homes in which the infectors took inadequate treatment and only 14.91% were infected where the infectors took adequate treatment", (Figueredo, 1967 (i).

Sulphones, and of these, the parent sulphone DDS (4,4-diamino-diphenyl sulphone) are the only effective drugs to-date and also the cheapest and convenient to administer. For field project too, DDS is the drug of choice.

Physiotherapy: The "terror of leprosy is rooted in its deformities" and "hence the prevention and treatment of deformity so-neglected in the past cries aloud for attention and relief. Physiotherapy answers this call in a satisfactory measure" (Kothare, 1966). One-fourth of the total leprosy cases in the world

have some degree of deformity (Editorial, B M J, 1964). Moreover, patients with disabilities represent an economic factor from significant loss of manpower for many countries where leprosy is endemic (Bechelli, 1966). The most important role played by physiotherapy is to prevent these deformities and correct if already developed.

Surgery: For treatment of ulcers, to regain the lost functions of hands or feet and for cosmetic repair of face surgery is undertaken. However, "funds for leprosy control should not be diverted for the provision of re-constructive surgery" (Manila Seminar, 1965). It is better to prevent disabilities by early diagnosis and treatment rather than have to correct them (W H O, 1966).

Rehabilitation: Prevention of deformities obviates at least partly the necessity of rehabilitation. The change in the attitude of the community towards this disease will prevent large-scale debilitation.

PREVENTION

The disease can be prevented by (1) minimising the contact (2) B C G vaccination and (3) Chemoprophylaxis.

Avoiding physical contact with a known case: This is possible even at home and therefore does not call for an institutional isolation with its attendant disadvantages, which out-number the advantages in this chronic disease.

The problems of isolation in an institution are chiefly financial and social. In crowded residence where strict avoidance of contact is not possible, either the resistance of the contact may be increased or he may be so treated as to inactivate the few germs which may have gained entry in his skin. For the former, BCG vaccine was tried in Uganda, Africa (Brown et al, 1966) in about 16,000 children (inclusive of control and experimental groups). It was concluded that the vaccine offered some protection. The trial was repeated in Burma by W H O but the results were equivocal (WHO Report, 1964). "The theory of BCG vaccination has a possible value in prevention of leprosy, but is not well-established, and hence it cannot at present be recommended as the standard method of prophylaxis" (Cochrane, 1964).

Chemo-prophylaxis:- This is done by sulphones. "The studies of N. Figueredo and co-workers indicated that prophylactic treatment of healthy contacts of leprosy patients with DDS protected them from acquiring leprosy. Until recently there was no conclusive evidence regarding the value of this preventive measure, and this view was expressed in the report of the panel on Epidemiology and Control of the VIIIth International Congress of Leprology at Rio de Janeiro in 1963. However, the studies in the matter currently in progress at the Central Leprosy Institute, Chingleput, appear to provide such evidence" (Dharmendra, 1965). An "Analysis of 575 contacts with at least two examinations separated by a year has shown a significant reduction in the risk of infection where there is adequate prophylaxis" (Figueredo, et al 1967).

Even after adopting all these measures, one problem that still challenges the control of the disease in an industrial area is the influx of leprosy patients from endemic areas.

FACTORS TO BE CONSIDERED FOR CONTROL OF LEPROSY IN AN AREA.

W H O Expert Committee on Leprosy (1966) recommends the following procedures:-

- A. *Problem*: This can be assessed by knowing the size of the problem, prevalence and distribution of leprosy, clinical patterns of the disease, geographical description of the area of operation (including climate, social and economic standards, communication facilities etc.), the health situation in the area (vital statistics, nutritional status and environmental sanitation).
- B. *Planning*: Consideration of resources of personnel and finances.
- C. *Program*: Objective should be well-defined in terms of quantum of work, area of operation and time involved. Time-table should be formulated to accomplish the objective in time. A number of duties (clinical examination, visits to patients' homes etc.) must be performed in the unit of time (day, week or month).
- D. *Evaluation*: Current evaluation during the development of the program, and final evaluation to assess the extent to which the objective is achieved and at what cost and in how much time. Difference, if any, in prevalence rate, incidence rate in population or its selected groups, proportions of different forms of leprosy, proportions of infectious cases rendered non-infectious is noted.
- E. *Pilot area*: Leprosy campaign should always start with a pilot project in order to improve methodology to adopt operational methods to suit the local conditions.

NATIONAL LEPROSY CONTROL PROGRAMME (N L C P).

Until very recently leprosy work in our country was confined to a few Christian missionaries. For a long time government and the mass of our people remained indifferent and unmoved. It was only after Gandhiji had shown the way in his inimitable manner that interest was generated in the country both among individuals and government (Lakshmanan, 1955).

The Government of India has, with the support of State Governments, launched a scheme of control on a national scale. This concerted effort of the Central and State Governments, "The National Leprosy Control Programme" was launched in the two terminal years of the First Five Year Plan.

Under the Program in the First Plan were established (a) Treatment and Study Centres, where special studies, like chemoprophylaxis, were undertaken, and (b) Subsidiary Centres where only mass therapy, after preliminary survey, was done. The Centres were established in areas where the prevalence was

over 1%, each centre serving the population of 80,000 and in as compact an area as possible, usually 5 to 10 squaremiles.

A little reorganisation of the set-up was implemented in the Third plan following experience gained from the First and the Second plans. Subsidiary Centres were re-designated as Leprosy Control Units.

The latter were established in an area with prevalence rate of 1% or over. Each unit is to cover a population of 1,50,000 by employing full-time medical officers, paramedical workers, physiotherapists and leprosy technicians. Survey, Education and Treatment (S E T) Centres were established where the prevalence was less than 1%. Each S E T centre is to cover a population of 15,000 by one paramedical worker and is attached to a Primary Health Centre. A Leprosy Training Centre is established in each endemic area to train para-medical workers.

FACTS AND FIGURES ABOUT LEPROSY IN INDIA :-

Estimated leprosy cases	...	...	...	2.50 million.
Estimated infectious cases	...	...	...	0.62 ..
Population residing in zones of high and moderate prevalence	...	...	...	300.00 ..
Population covered (upto June, 1961)	...	...	...	71.70 ..
Leprosy Control Units (,, ,, ,, )	...	...	...	182. in all
S E T Centres. ,, ,, )	...	...	...	1035. in all
No. of Centres by Voluntary agencies (upto June, 1968)	...	...	...	31. in all
No. of Centres by International organisation	...	...	...	4 in all
Population examined	...	...	...	36.90 million
Total cases recorded as of June, 1968	...	...	...	7,39,785.
Total cases registered for treatment	...	...	...	6,69,587.
Healthy contacts registered.	...	...	...	18,73,686.

Leprosy is a public health problem in Tamil Nadu, Andhra Pradesh, West Bengal, Orissa, Maharashtra, Mysore, Bihar and Uttar Pradesh. (Quarterly report and News Bulletin, 1968).

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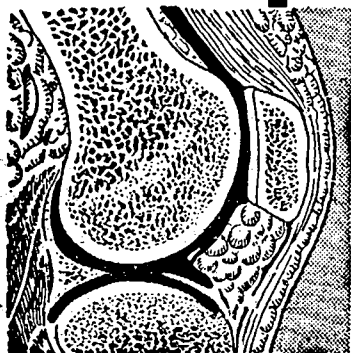
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INDICATED IN



Rheumatic Arthritis...

Dexapred

TABLETS 0.5 mg.

INDICATIONS:

Rheumatic diseases, allergic conditions, bronchial asthma, dermatological and ocular disorders, renal and liver diseases, infectious diseases, malignant tumours and particularly in pericarditis and pericardial effusion.

DOSAGE:

Initial dose is 3 mg. daily or as directed by the Physician.



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