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THE CHALLENGE OF TUBERCULOSIS IN NEPAL

by

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Less than ten years ago malaria headed the list for mortality in the population; the malaria eradication programme has reduced it to the status of an uncommon disease over most of the country, and unremitting vigilance by the Medical Services will consolidate this gain. Now tuberculosis heads the list in mortality and morbidity. It far outstrips any other disease entity in Nepal. It is our prime medical challenge.

The incidence of tuberculosis is difficult to establish accurately and it is certainly unevenly distributed through the country. The highest incidence is probably in the Kathmandu valley and in towns lying on the main roads and hill trade-routes; the people of some of the remoter areas may still be found to have little tuberculosis. As means of

communication improve in the Terai and the hills, we can expect a spread of the disease to areas of low inherent resistance unless control measures are vigorous, timely and universal.

The overall incidence of active cases for the whole country probably lies at the level of between 3 and 6%, a staggering figure.

The Control of Tuberculosis

Control is obtained in three ways:

- (a) By general improvement in living conditions, raising standards of nutrition, hygiene and education, and avoiding overcrowding. Mostly the long term achievement of these aims lies more in the hands of administrators and teachers, but the doctor should never neglect his community role of Health Educator.
- (b) By establishing facilities for case finding and treatment (CFT) at strategic points throughout the country. A pilot scheme in the hill town of Dhankutta is described later in this article.
- (c) By establishing a system of thorough country-wide BCG vaccination.

BCG Programme

The "Tuberculosis Control Pilot Project" was initiated in 1965 by agreement between His Majesty's Government, WHO and UNICEF. In addition to the Chest Clinic, already in operation since 1950 and renamed Central Chest Clinic in 1963, further Tb-clinics were opened and a programme of BCG vaccination initiated in the Kathmandu valley.

In addition BCG was given at certain MCH clinics in the Terai.

The Kosi Anchal BCG programme was started in November 1968, at this time about 8000 vaccinations had been given, mainly in and around Biratnagar. The aim was to cover systematically the two Terai districts of Morang and Sunsari, and later to extend the programme to the hill areas. Some details of the way this is being carried out may be of interest to others concerned with the problem.

The Mechanism of Programme

The basis of the method has been weekly visits covering each village Panchayat area or town ward, vaccination at two or more selected centres, preceded by an extensive and important preliminary publicity.

The preliminary information is the key to success. First an official letter and educational materials are sent from the Zonal Hospital to the Panchayat informing them of the programme and the date of vaccination visit to their area. The Health Educator, who is responsible for publicity, then visits and Panchayat area three or four days before the vaccination visit and by means of group meetings, lectures to schools and posters, aims to get active co-operation of all influential leaders of the area. Suitable centres for

vaccination teams are also selected. Posters and pamphlets are left that the local Panchayat can carry out its own publicity up to the arrival of the team. Other publicity methods we have used include slides, shown in local cinemas, loudspeaker advertising, newspaper articles, flip charts, and demonstration stalls at fairs.

The Team consists usually of three trained and three student nurses, a Trust doctor and a driver. A trained nurse and a student form a 'vaccination unit' allotted to each of 3 centres, the doctor sees urgent medical cases on 'Mobile Clinic' and assists with vaccination and publicity.

The equipment consists of complete BCG vaccination bags (provided by UNICEF), vaccine and saline kept in ice in vacuum flasks, a field medical kit, recording books and educational materials.

Vaccination is carried out by 'direct' method, by conventional intradermal injection in the left upper deltoid region on all children upto 15 years of age; special efforts are made to encourage the attendance of infants. Vaccinations are recorded by age groups; at the end of vaccination the totals are signed by a Panchayat member, and the monthly reports are sent to Kathmandu. Each report includes mileage, road conditions, total numbers vaccinated and an estimate of percentage coverage based on the estimated total population figures obtained from Panchayat officials. 42% of the total population can be taken as a rough estimate of the total number of children from 0-15 years, and 64% of this child population is regarded as the minimum satisfactory coverage. If this is not obtained the Panchayat concerned is listed for revisit.

The number of vaccinations in Kosi Zone Terai districts to date is 67,000.

Comments.

- (1) The preliminary publicity is very important, and success depends on the amount of co-operation aroused in Panchayat members, headmasters etc.
- (2) House to house visiting is not possible because of the distances involved; and good coverage can be obtained using vaccination centres (e.g. school children are vaccinated in their schools.)
- (3) Lack of suitable accurate maps makes communication and planning very difficult.
- (4) Roads and tracks become impassable during the monsoon months in many areas; therefore during these months we have concentrated on the main towns of the region, Dharan and Biratnagar, with planned visits to schools, factories and mills, and systematic ward-by-ward coverages of the town areas.
- (5) This method of providing BCG coverage is economically attractive; the BCG programme in the Terai, including petrol, car repairs, drugs,

dressings and advertising materials, but excluding staff wages, costs Rs. 1500-2,000 per annum.

- (6) The programme is being extended to the hill-areas with the launching of a BCG campaign in Dhankutta District this monsoon; here the problem and techniques are different, and it is hoped to present a report on this programme in a later number of this journal.

Treatment of the Active Cases

In the Terai all cases of suspected Tb seen on vaccination visits are referred to Biratnagar Hospital for treatment. Serious cases are admitted to a small isolation ward and treated with daily Streptomycin and INAH/TBI (Isoniazid and Thiacetazone combination) until sufficiently improved (average 4 weeks) to be sent home on a regime of twice weekly Streptomycin for a total of 3 months and daily INAH/TBI for at least a year. All cases are advised to return to the NTbA Chest Clinic for follow up. Diagnosis is based on clinical opinion backed up by sputum microscopy; X-Ray is only really necessary in a small proportion of cases.

In Dhankutta the problem of active Tb is so great that a chest clinic has been started in conjunction with the local hospital and with the active support of the Panchayat. It is staffed by a Trust doctor and nurse and is at present treating over 150 cases, with active follow-up and checking of contracts. Plans are in hand to develop a hostel and workshop so that patients from outside the town can earn enough from light work to buy their daily food while they are attending for daily or twice-weekly injections. All drugs are given free.

The cost of this clinic including laboratory materials, medicines and living expenses for doctor and nurse (but not salaries) is less than Rs. 40,000 per year.

Conclusions

1. The control of tuberculosis is a matter as much of economics as of medicine. We consider that it is quite possible to establish a country-wide system of control at a moderate cost.
2. Future control depends upon the full co-operation of every person working in the fields of public health e.g. the Tuberculosis Association, Smallpox vaccinators, malaria eradicators, MCH and FP.
3. Teams must be trained for BCG vaccination and clinics established under the direction of the Health Services for active treatment of the disease.
4. Every clinic must be fully furnished with full diagnostic facilities and be supplied with all necessary drugs for the treatment of active cases.

Comment

Only 30 years ago the problem of tuberculosis was very serious in Western Europe; today it is almost non-existent. Surely it is time that such a problem as exists here today should be dealt with immediately. *Nepal cannot afford to wait; it must act now.* The cost is surely little for the results which can be achieved.

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