

PROGRESS IN TUBERCULOSIS CONTROL IN NEPAL*

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Introduction

In years gone by there was no question of control of tuberculosis as we know of these days. A crude form of control was there, in as much as, there was isolation in the Tokha Sanatorium, built in 1933 – that too for about 50 fortunate people out of the tuberculosis population of several thousands in Nepal.

This state of affairs changed for the better after the advent of specific chemotherapy for the treatment of tuberculosis—Streptomycin in 1964 and Isoniazid in 1952; and the introduction of Direct B.C.G. in February 1966.

In 1950 a new era opened up in the form of a Chest Clinic in Kathmandu, (which was renamed the Central Chest Clinic in 1963) due to the far-sightedness and unselfishness of the one and only chest Physician then, Dr. Y. R. Joshi. There are now other Chest Clinics in Patan, Bhadgoan, Kalimati (Kathmandu), Biratnagar and Birgunj. The last three run under the auspices of the Nepal Tuberculosis Association. In these chest clinics domiciliary treatment is initiated upon. I feel that this has made a considerable impact on the prevention of the spread of infection of this dreaded disease. Defaulter tracing and contact examination is also done from the Central Chest Clinic.

Still the approach to the disease was purely clinical; the public health approach had been neglected.

TUBERCULOSIS CONTROL PILOT PROJECT

In June 1965 a tripartite agreement was signed between His Majesty's Govt., WHO and UNICEF and the Tuberculosis Control Pilot Project came into existence.

The objectives of the project were:

1. To protect the non-infected population with BCG vaccination.
2. To base case-finding on positive sputum.
3. To treat cases on ambulatory basis and to insist on regular treatment for a minimum of 12 months without a break.
4. To make tuberculosis control an integral part of the basic health services.
5. To develop the Central Chest Clinic into the National Headquarters of Tuberculosis control, where technical advice and guidance would be given, including training of health personnel.

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Throughout the project, the Mantoux test, I. T. U., using PPD, RT 23 and the Japanese freeze-dried BCG vaccine, were used. Omega leak-proof syringes were employed.

In July 1965 to develop a baseline, information on naturally acquired tuberculin sensitivity was tested, and BCG vaccination of school children began.

Patan Survey;

In January 1966, a tuberculin sample survey was conducted in Lagankhel in Patan, to establish the harmlessness of Direct BCG vaccination and to find out the age up to which it should be offered.

The tuberculin study at Patan showed that in the age group 10-14, 44% of the persons had a tuberculin reaction of 9mm or less, so it was decided that direct BCG vaccination should be given to all persons below the age of 14.

Vaccination is done on a house to house basis.

Complication:

The post-vaccination complication seen were due to secondary infection and keloid formation. In a group of 83 school children 5-14 years of age, and one year after tuberculin test and vaccination 82% were found to react positively to tuberculin test; 23.4% showed keloid formation.

Difficulties:

When the project commenced, BCG vaccination had been carried out to a very limited extent on Mantoux negative school children in Kathmandu.

The medical profession and the educated laymen feel that BCG should be given only to those that are tuberculin negative, and it was therefore very difficult to introduce BCG vaccination without previous tuberculin testing. Parents still complain about direct BCG even now but they are far and in between these days.

On 23rd February 1966 direct BCG was introduced in schools in Kathmandu. So far, 35,342 school-children corresponding to 75% of the estimated 50,000 school population in the valley, have been vaccinated.

In July/August 1966 Direct BCG was introduced in the Bir and the Maternity hospital. At present we are doing simultaneous BCG and small-pox vaccination in newborns in those hospitals.

Direct BCG has now been intergrated with the Maternity and Child health service in the valley and a few places outside, like Birgunj, Biratnagar, Bharatpur and Nepalgunj.

Upto date the direct BCG vaccination given are 1,39,279.

For training the health personnel the army and police recruits were approached. Out of the 433 recruits of the age 15-19 age group tested, 46% were positive against an expected

positivity of 85% in the valley for an average population of the same age and sex, who had been in the valley for 2 months or less. For those recruits who had spent more than 2 months in the valley, the positive recruits increased to 56% in a group of 1,035 recruits in the same age group.

From these observations it may be assumed that the incidence of tuberculosis in the hilly areas of Nepal, from where the recruits mostly come, is much lower than in Kathmandu valley. Bearing in mind the expected development of communication in the country, this situation points to the urgent need for an intensive BCG vaccination programme also in areas outside Kathmandu valley.

Of a total of 6,348 soldiers tested, 1,422 (i.e. 23.7%) were negative and were given BCG vaccination.

B. C. G

BCG meaning "Bacillus Calmette Guerin" is named after two French scientists, Calmette and Guerin who discovered it in 1921. It is the modern control method, it is the least expensive preventive measure against tuberculosis, it is highly effective (vide British Medical Research Council trial where the incidence of tuberculosis was only 0.4 per 1000 in BCG vaccinated group, as compared to 1.9 per 1000 in the unvaccinated group, representing a reduction by 79% attribution to the BCG vaccination. It is at present the single most effective measure against tuberculosis and it should be publicised by all.

Recommendations for the Future:

There should be 2 main approaches to tackling the tuberculosis control problem, depending on the geography of the location whether it is.

- 1) Kathmandu valley and the Terai region where communication is adequate, or
- 2) Isolated hilly mountainous areas.

For Kathmandu valley and Terai—house to house direct BCG vaccination, as is being done at present.

Secondly, self motivated case-finding in the last phase, and in the second phase active case-finding by direct microscopy.

For the hilly terrain—systemic coverage with direct BCG of the non-infected population. There is no question of case-finding in the near future because of the very poor communication and the lack of basic health services in most areas.

BCG and Smallpox vaccination should be combined and given simultaneously to cut down expenses, as it is at present being done in Bir Hospitals—as advocated in the control trial in Taiwan.

Finally, His Majesty's Govt. should pay more attention to the development of Chest Clinics, which are less expensive and equally effective of tuberculosis than sanatorium, which are more expensive and gives less in return.