TUBERCULOSIS CONTROL PROGRAMME IN NEPAL (PART 2) CONCRETE STRATEGY

YOSHIO HIROTA¹⁾, J. N. GIRI²⁾, N. L. MASKAY³⁾, B. R. BAIDYA⁴⁾,
G. M. BAJRACHARYA⁵⁾, HIDEO NAKANO⁶⁾ AND
YASUAKI NISHIJIMA⁷⁾

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A concrete strategy for Tuberculosis control programme on the total population of 280,000 in Syanja District of Gandaki Zone, Nepal, was discussed.

The programme, manned by 25 members, started October 17, 1976, will be enforced on the following items until April 12, 1977.

1. BCG vaccination of children under 15 years of age (Direct Vaccination).
2. Case finding by direct smear examination of sputum and the medical treatment of patient found.

The levels of prevention of Tuberculosis in developing countries, like Nepal, are of course not necessary to be relied on the sophisticated latest medical technology. Smear test of sputum for example will be done before chest X-ray examination can be carried out.

In a country where the budgetary allowances can not allocate periodical chest X-ray examination, the mass vaccination of BCG to the young population and case finding survey followed by sputum examination will be most suitable and pertinent levels of application in preventing Tuberculosis infection.

INTRODUCTION

(See Figs. 1 and 2)

The census in 1971 showed that out of 11,560,000 of a total population in Nepal, 2,800,000 live in the Eastern

Region, 3,870,000 live in the Central Region, 2,470,000 live in the Western Region where the Japanese Government received the request for the medical collaboration aid, and 2,430,000 live in the Far Western Region.

1) *Department of Public Health, Kurume University School of Medicine, Kurume, 830, Japan*

2) *Chief, National Tuberculosis Control Project, Kathmandu, Nepal*

3) *Chief, Central Chest Clinic, Kathmandu, Nepal*

4) *Civil Surgeon, Gandaki Zonal Hospital, Pokhara, Nepal*

5) *Chief, Western Regional Health Laboratory, Pokhara, Nepal*

6) *Central Radiological Section, Kurume University Hospital*

7) *Central Laboratory Section, Kurume University Hospital*

1), 6) & 7) : Members of Japanese Medical Cooperation Team (JMCT) Based on the Colombo Plan.

Fig. 1

(referred to WHO: Health project management, 1974. Page 175)

Fig. 2 The project organization concept.

The discussions with the Ministry of Health, the National Tuberculosis Control Project and other authorities concerned with His Majesty's Government of Nepal defined that the Japanese Medical Cooperation Team would establish the Western Regional Tuberculosis Control Project at Pokhara and carry out the tuberculosis control programme in Syanja District keeping the manpower provided by the National Tuberculosis Control Project.

Syanja District, with a total population of 280,000, is about 30 miles distant south-westward from Pokhara,

which is situated at the center of the Western Region, and none has started work on tuberculosis control in this area because this district has the biggest population in the Western Region and is located in a remote and secluded place in the mountains.

Syanja District consists of 98 "Panchayat"s (the village unit administered by a committee of 5 members), and it is presumed that the number of children under 15 years of age eligible to be innoculated with BCG is about 112,000, and suspected case are about 2,800, 1% of Syanja's total population.

POSITION	MANPOWER	INSTRUMENTS	FUNCTION	MOVEMENT
SYANJA FIELD	BCG Vaccinator Senior 3 Junior 16 Labo. Technician Senior 1 Junior 2	BCG BCG Kit Slide Glass Alcohol Burner Steining Kit Staining Solution (prepared) Sputum Container Microscope (3) etc.	BCG Vaccination Direct Smear Exam. of Sputum Issue of Diagnosing Card & Treatment Form	
	Messenger			
SYANJA ADVANCED OFFICE	Health Assistant (supervisor)	a) plus Microscope (1) Instruments & Chemicals for Staining Anti-TB Drugs etc.	Preparation of Staining Solution Supply to Field Data Arrangement (BCG Vaccination, Case-Finding)	
POKHARA MAIN OFFICE	Doctor (senior advisor) Medical Technician (umpire examiner)	a), b) plus etc.	Supply to Syanja Advanced Office Data Arrangement (BCG Vaccination, Case-Finding & Treatment) Check System	

Fig. 3 Design of project.

CONCRETE STRATEGY

(See Figs. 1 and 3, Table 1)

a) Period

October 17, 1976 to April 12, 1977.

b) Subject

Total population of 280,000 settled in Syanja District.

c) Enforcement items

BCG vaccination of children under 15 years of age (Direct Vaccination), case-finding by direct smear examination of sputum and treatment.

d) Manpower

25 members consisting of one Doctor (as a senior adviser) and one Medical

Technician (as an umpire examiner) from JMCT, and one Health Assistant (as a supervisor in the field), one Senior Laboratory Technician, two Junior Laboratory Technicians, three Senior BCG Vaccinators and sixteen Junior BCG Vaccinators.

The total number of Laboratory Technicians and BCG Vaccinators will be doubled from March 14, 1977.

e) Distribution of manpower

The Senior Adviser and Umpire Examiner stay at the Pokhara Main Office and the Supervisor at the Syanja Advanced Office. The BCG Vaccinators are divided into 4 or 5 teams and visit houses all over the Syanja District. The Laboratory Technicians move from one panchayat to another panchayat while working at the centre of each group of BCG Vaccinators.

f) Activity

In the order demonstrated in Fig. 1 and Table 1, one temporary base is set up in each of three panchayats and each Laboratory Technician sets up the instruments there. BCG Vaccinators visit all the houses of neighbouring panchayats from the bases to give BCGs and collect sputum specimens from symptomatic cases. Collected sputum specimens are fixed at the spot and brought back to the bases by BCG Vaccinators, and Laboratory Technicians examine them at the base.

As soon as a case who has a positive sputum smear is found, a diagnosing card and treatment form from the Central Chest Clinic, which is one of the most authoritative special hospitals in the field of chest diseases in Kathmandu, are issued to that case.

Patients visit the nearest health posts or other health institutions, where

standard anti-TB drugs mentioned in the former report (1977) have been distributed in advance, arming themselves with these cards and forms. The staff members of the health institutions discuss with the patient and select the most appropriate prescription out of three kinds of regimens for that patient.

g) Logistical system

The necessary instruments and chemicals for the BCG inoculation and direct smear examination, BCG, slide glass, staining chemicals, etc., are stored at the Pokhara Main Office and supplied to the Syanja Advanced Office as occasion demand. The Advanced Office has uncomplicated laboratory equipment which renders it possible to do a direct smear examination and staining solution preparation, and supplies the instruments and prepared chemicals to the Syanja Field.

One messenger which doubles as a porter walks around with the Laboratory Technicians and BCG Vaccinators in the Syanja Field and is charged with the supplying of necessary instruments between the Field and the Advanced Office once a week.

h) Checking system

Accuracy of case-finding : All of the smear slides which have been prepared and examined in the field are transported to the Advanced Office by the messenger once a week and reexamined by the Umpire Examiner. The Umpire Examiner goes into the field for a short time periodically and tests the whole process of sputum collection, smear slide preparation and microscopic examination with Laboratory Technicians and BCG Vaccinators.

Accuracy with which the detected

TABLE 1

Mass BCG and case-finding advance programme

Panchayat	No. of house	Panchayat	No. of house
1. Kaikot	606	53. Kyacmi	970
2. Kotakot	236	54. Jagat Bhanjang	598
3. Alam Devi.	376	55. Baling	899
4. Bikgha Chale	369	56. Armati Dhanubans	449
5. Miramid Hau	370	57. Alam Devi	376
6. Beagha Bhanjang	406	58. Chinne Bas	822
7. Krishna Gandaki	854	59. Tarli Bhanjang	374
(17th Oct. to 5th Nov., 1976)		60. Kich Nash	381
8. Balam Jagata Devi	542	61. Pyar sing	377
9. Bam Bhanjang	639	62. Dunjhya Thanti	521
10. Maling	899	63. Chibe Bhanjang	253
11. Pidikhala	606	64. Chisopani	unknown
12. Pilakot	496	65. Kich Nasdevisthan	389
(16th Nov. to 14th Dec., 1976)		66. Metha Bhurung	625
13. Chok Thana	369	67. Mejha Kot	379
14. Ghurukha Danda Khark	346	68. Damung Khanti	449
15. Sikskot Deurali	466	69. Bani Thok	604
16. Kolthok Thumka	469	70. Dahathum	710
17. Thum Pokhare	498	71. Pyeleka Chaur	511
18. Bahakot	398	72. MalBhul	317
19. Bhurem Bot	444	73. Archale Bhanjang	359
(15th Dec., 1976 to 13th Jan., 1977)		74. Orent	unknown
20. Sorek Mahapor	480	75. Sal Danda Hatiya	439
21. Gadera	533	76. Rang Bhang	276
22. Dhapuk Samal Banjang	481	77. Karen Danda	574
23. Khai Deurali	573	78. Baha Kot	308
24. Khatesetal Chaupati	431	79. Dhuladi	432
25. Myal Tari	602	80. Lume Chapkhor Danda	225
(14th Jan. to 11th Feb., 1977)		81. Takshar	unknown
26. Rapa Kot	826	82. Bharat Pokhari	494
27. Sirubari	643	83. Bhote Pokhari	534
28. Satu Rang Bhanjang	642	84. Sani Nirmal	501
29. Satu Pashal	541	85. Phom Shin	316
30. Satau Darau	490	86. Kisti Nachane Chour	507
(12th Feb. to 13th Mar., 1977)		87. Bhatti Khan	431
31. Majhajri	266	88. Dan Goth	412
32. Chailaunebas	343	89. N. Deurali	472
33. Range Thanti	529	90. Pouwa Gouda	426
34. Bhatkhola	347	91. Ganesha Pur	464
35. Arukharka	349	92. Seti Dowan	474
36. Rapa Kot	826	93. Lamange	317
37. Bagsing Deurali	453	94. Putalikhet Syanja	462
38. Khalte Sitalch	431	95. "	unknown
39. Rani Chaur Dadakhark	204	96. "	unknown
40. Silmi Rani Swara	196	97. "	unknown
41. Sakar Mohame	399	98. "	unknown
42. Sakar Pathsar	440	(14th Mar. to 12th Apr., 1977)	
43. Chapa Kot	457	Total No. of Panchayats :	98
44. Chapa Kot Ratnapur	unknown	Total No. of Populations :	280,064
45. Kuwa Kot	706	Working Days :	25 Days per Month
46. Geja Maumukhe	390		
47. Tulsi Bhanjang	538		
48. Nindo Bato	unknown		
49. Pek Bali	592		
50. Kewor Bhanjang	548		
51. Desing Kot	438		
52. Sikham	685		

patients contact to the health institutions and complete the treatment: Each health institution reports the number of patients who have come with the diagnosing card and treatment form from the Central Chest Clinic, and their states of treatment, to the Syanja Advanced Office or the Pokhara Main Office.

i) Others

All datum gained in the field, the number of BCGs given, the number of sputum smear examinations done, the number of sputum smear positive cases, etc., are reported to the Syanja Advanced Office through the messenger and to the Pokhara Main Office through the Advanced Office.

DISCUSSION

It seems that not a few health projects, without reference to their variety in size, are haunted with failure. Although it goes without saying that "Pilot Project", which is the project for the following progressive counter-measures, has taken it for granted that it cannot estimate how it has contributed to solving the health problem, it does appear that there were also some other health projects which did not estimate whether they had improved health, made health services or achieved their goals.

It is said that in many cases, the failures can be traced to one or more shortcomings in management such as:

- inadequate provision for implementing plans
- incorrect selection of programme strategies and methods
- inattention to political and organizational limitations on change
- failure to link objectives with specific deadlines
- inability to get collaborative work accomplished by a number of established organizational units
- dispersion of resources and targets so widely that little impact is made on problems
- overoptimism about the capacity of the infrastructure to carry out the plans
- overreliance on intuition in defining and analysing problems and possible solutions
- failure to monitor progress and identify problems in carrying out plans, and to prevent shortfalls or make them up promptly
- failure to develop manpower and other resources adequately
- failure to match programme techniques with consumer needs and characteristics, resulting in a lack of acceptance
- failure to involve early all who should contribute to planning
- inattention to budgetary cycles and processes as they affect planning and implementation (1975).

To avert the failure attributed to the factors mentioned above, planning and implementation should be cautiously conducted on the basis of the public health diagnostics.

As demonstrated in Fig. 4, this strategy was planned with reference to Nepal's own vital statistics (1974), the investigation into the actual conditions of tuberculosis and its control (1976), the former example of large-scale tuberculosis control (1974) and the ninth report of the WHO Expert Committee on Tuberculosis (1974) (Evaluations or Studies, or, Country Health Programme), logistical system and checking system grounded upon the geographical condition of Syanja District and its geographical relationship to Pokhara (Random Idea), and the resources donated by the Japanese Government and

(WHO: Health project management, 1974. Page 2)

Fig. 4 Project management.

the future donation (Foreign Assistance Possibility).

Planning the health project, it is necessary that the natural history of the target disease should be understood, and for early detection and early treatment, it is also necessary that the behavioral sciences on the human side in the period of onset, diagnosis, treatment and recovery should be understood (See Fig. 5). For what with the risk that the tuberculosis patients who remain to be diagnosed are really an infectious focus in themselves, and what with the case-finding difficulties against the "Rapid Cases" (1972), the behavioral sciences on tuberculosis patients in this period become all the more important.

D. Banerji et al. (1963) assumed that there are various levels of consciousness or awareness of symptoms, and divided them into three categories:

a) mere consciousness of the presence of one or more symptoms, hereafter called "consciousness";

b) awareness of one or more symptoms as a source of worry, hereafter called "worry awareness";

(WHO: Health project management, 1974. Page 107)

Fig. 5 Health problem model.

c) awareness of symptoms which leads to action, hereafter called "action".

House visitation and interviews to collect sputum specimens from sympto-

matic cases will render it possible to detect tuberculosis cases conforming to categories a) and b), whom health institutions cannot detect, and also be the effectual method for "Rapid Cases".

In the present project, the "Door to Door" method for case-finding has been adopted owing to much cooperation of authorities with Nepal. While on this project, throughgoing surveillance should be carried out and the ideal model of tuberculosis control should be sought.

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