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PERSONNEL REQUIREMENTS AND TRAINING

by

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To achieve the broad objectives of reducing human suffering, the National Anti-Tuberculosis Programme (NTP) must be on a country wide and permanent basis, satisfy the existing needs within the available resources, and form an integrated part of the community health services, so that the personnel of the community health centre which is multipurpose may also perform the tasks required by the tuberculosis programme.

The planning of such a programme must be based on accurate data concerning epidemiological, operational, geographic and social information.

The programme must include and maintain the basic measures for assessing B.C.G. vaccination, provide diagnostic services for case finding, provide treatment and follow up for all patients diagnosed. The programme must establish and maintain a standardised recording and reporting system, for routine work, supervision and evaluation. The programme must undertake health education, training and research.

I PERSONNEL REQUIREMENTS - At the central level

The NTP should have a strong directing unit with a central authority under the Ministry of Health. For this purpose, highly qualified personnel are necessary with multidisciplinary training. The unit at the headquarters consists of the following:

1. One physician with some training in clinical aspects of tuberculosis and its epidemiology and special education in public health. He should work on full-

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time basis and be either recruited locally and trained in specialised institution or be somebody contracted on temporary basis from outside. He will develop and direct the group which will initiate and carry on tuberculosis control activities in the country.

2. One epidemiologist with special training in statistics.

3. Bacteriologist.

4. Secretarial staff and a driver.

5. Assessment team of two specially trained technicians as one of their tasks will be collecting field data necessary for evaluating the various activities of the programme. This central unit will be responsible for:
   a) Planning, coordination and evaluation of the national tuberculosis programme.
   b) The formulation of policies, standards, operational and technical procedures for the NTP.

The NTP must fit closely with the administration of the country, like regions, districts and communities. The size of these administrative units differs from country to country.

At the intermediate level, i.e. in each region, there should be a chest centre with at least twelve rooms (see attached sketch) and twenty to fifty beds in the general hospital, a laboratory to perform smear and culture and a team for vaccination.

The regional health director should be responsible for the implementation of the NTP in his region. He is assisted by the regional chest consultant in the direction, supervision and control of the programme. The consultant is also responsible for B.C.G. assessment and for training of personnel.

The staff of the regional chest centre consists of:

		Number	Remarks
1.	Senior medical officer	1	
2.	Junior medical officer	1	
3.	X-Ray technicians	2	
4.	Laboratory technicians	3	One for training
5.	Health visitors	3	One for training
6.	B.C.G. team leader	1)	If BCG not integrated into BHS
7.	B.C.G. technicians	2)	
8.	Statistical assistant clerk	1	
9.	Clerks	2	
10.	Typist	1	

		Number	Remarks
11.	Assistant pharmacist	1	
12.	Storekeeper	1	
13.	Other employees	5	
14.	Drivers	3	

15. A mobile team

a) X-Ray technician for running the already present machines.

b) A nurse.

c) A clerk.

d) A driver.

In the district there is usually a microscopic station with two multipurpose technicians. Any health clinic with a microscope must be considered as a microscopic station for case finding.

The health officer in the district is responsible for the execution of the programme in his district with the technical assistance of the chest consultant in the region, and exercises for the regional health director the direction, supervision and control of the work in the microscopic station. In other words he will be responsible for:

1. B.C.G. vaccination of school children and pre-school children or young adults according to the strategy of B.C.G. vaccination.
2. Case finding, passive and active.
3. Treatment of all patients diagnosed or transferred from other regions.
4. Supervision and follow up of patients under treatment.
5. Keeping and maintaining of required monthly reports.

At peripheral level

At peripheral level the tuberculosis services are part and parcel of the regular public health activities of the local health unit. The district medical officer may visit the peripheral health clinic regularly once or twice a week. The public health nurse in that clinic is responsible for performing the health measures needed.

In some countries of the world, part of the population live in tents and keep on the move like the nomads. The authorities usually provide them with a mobile health clinic and through this mobile clinic the various anti-tuberculosis activities may be performed.

In this set up three types of laboratories are recognised:

1. Peripheral; employing 1 - 2 persons capable of doing simple diagnostic procedures under supervision.
2. The intermediate multidisciplinary laboratory with culture facilities.
3. The central laboratory where sensitivity tests are available.

For a country like Jordan with a population of 1.8 million there must be a team of specialised personnel especially assigned to tuberculosis programme for directing, training, supervising and assisting the personnel in the health centres as far as their work in the tuberculosis programme is concerned. The chief of the team should be a physician with education and training in the public health aspects of tuberculosis. The other members of the team are a public health nurse, a laboratory technician and a statistical clerk. The team should make regular visits to each health centre and thus be on the move most of the time.

During these visits they should take special care of the difficult cases and obtain information about all new cases and those under treatment.

II TRAINING

Although the advent of new drugs has reduced the demand for specialists, yet the need for anti-tuberculous leaders and for proper training of personnel has been recognised for a long time especially in countries with high prevalence of the disease with which doctors have to deal. The accepted policy of applying tuberculosis programme on a community wide basis and the maintenance of high technical standards make it necessary to incorporate the guiding principle of tuberculosis control in all the teaching curricula in the schools of nursing and in the faculty of medicine. The teachers and professors should have special training in epidemiology, preventive and community aspects of tuberculosis control.

If the teachers themselves are not aware of the importance of these aspects they will not be able to stimulate interest in the nurses and undergraduate students, and thus it will be extremely difficult to secure recruits for post-graduate specialised training in tuberculosis control and also in finding doctors to work in the field of tuberculosis. It is not surprising that this type of training is not popular because the clinical side is only minor and the preventive and social sides dominate. This type of specialty is the least rewarding on a private practice basis as it does not make a good income.

The candidates must have the required knowledge on tuberculosis, its pathology, bacteriology, diagnosis and treatment. The post-graduate training then will emphasise the methodology of dealing with the disease as a community based problem and the philosophy underlying this approach, so that the trainee can understand tuberculosis as a problem of human suffering.

Training of key personnel

Any post-graduate training for key personnel should preferably be given in a specialised institution like Cardiff, NTI Bangaloor India or Tokyo course.

The prerequisite for such training is 1 - 2 years training in a national training centre. Therefore, it is felt thay any programme for tuberculosis control should start by setting up a permanent national centre for training basic personnel in all branches of tuberculosis work as well as refresher courses for general practioners.

The main objective of such a training centre will be:

1. To formulate a practical, economically feasible and acceptable tuberculosis control programme.
2. To train tuberculosis workers in the new methodology.
3. To undertake applied research in order to sustain and support various aspects of the nascent NTP.

Training of Auxiliary Staff

The basic qualifications of these auxiliary staff should be at least the general certificate of education or chosen from the pool of paramedical school.

A large number of auxiliary staff is necessary to assist doctors engaged in the task. Some of these auxiliary staff are better than doctors in certain type of their work and therefore they save the effort of looking for a highly qualified doctor and at the same time they are more economical.

The objectives of training should be to produce efficient staff able to do preventive work, organise a system of case finding and to assist with the treatment of diagnosed patients.

Training should include programme for new staff and refresher courses for trained staff.

The subjects to be covered are:

1. Light anatomy and physiology of the chest.
2. Lectures on tuberculosis and other diseases of the chest.
3. Nursing lectures on tuberculosis including practical procedures.
4. Sputum collection and examination
5. B.C.G. vaccination and P.P.D. testing and reading.
6. Care of drugs and equipments.
7. Home visiting and reporting.
8. Health education.

9. Keeping record and statistics.
10. Routine work of the chest centre and relation with the hospital, the other chest centre and health institutions. Duration of training 4 - 6 months.

Team training is an important feature of the training of tuberculosis workers, the training is highly practical and job-oriented. The trainee should be given the full opportunity to learn the various techniques with their own hands.

The trainees with varying intellectual levels and educational achievements is a challenge to the training skill. The activity of each one has to be coordinated with that of the other and each one should learn the nature of the job of his colleagues and become aware of the links and flows of work of all the categories of personnel in the programme. Training in supervision and assessment of the programme is introduced in the course in the final part when the trainees are expected to be capable of assessing another's work.

Seminars and exchange visits between various tuberculosis workers constitute a form of training as well as an opportunity to check performance and correct the deficiencies. A quarterly bulletin would act as a medium for the exchange of views and deal with operational aspects of day to day work.

For other students like public health nurse workers, health educators and similar, appropriate arrangement must be made for their training.

Training should be broadened so that the regional tuberculosis consultant could function as deputy to the regional director of health services and statistical assistant could deal with all health records and reports of the region. The laboratory technicians could train and supervise all bacteriological work and so on. All training institutions could give the same type of training and retraining required for integration of services.

Training courses must be sufficiently attractive as giving diploma or allowances. Those who are engaged in tuberculosis programme should have much higher salaries than those engaged in clinical work. Tuberculosis control officer should start with a minimum salary of probably double that of an officer holding a similar post in the clinical field.

There are two partners in the programme, the official health authorities who have the responsibility for providing the tuberculosis services and the voluntary health association which must ensure community participation in the programme. It is important that both activities are properly organised and work closely together.

The association must be organised from the community level to the national level. Its structure must run parallel to that of the governmental health services. This will ensure active participation of the community and will lead to vaccinate a sufficient

proportion of children and young adults. It will lead to the diagnosis of a sufficient proportion of infectious cases of pulmonary tuberculosis and regular attendance of patient on their treatment for a sufficient period of time.

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Sketch of a Chest Centre