

NEW DEVELOPMENTS IN TUBERCULOSIS CONTROL AND THE ISSUE OF INTEGRATION

Befekadu Sissay ,I M.D.

INTRODUCTION

The fight against tuberculosis has been going on for a very long time. In this fight, one notices three very important developments. First there is the discovery of the tuberculosis drugs with the potent drug isoniazid coming into use in the early '50s. Third the notion of a national Tuberculosis Control Programme developed by WHO which programme was indicated in the 8th. Report of the Expert Committee on Tuberculosis in 1964 (I) and further elaborated by the 9th. Report 10 years later. (2)

Along with the development and standardization of the anti-tuberculosis technology in the past several years, there has been an increasing awareness for the need of better health services. This need is being met by governments and other agencies by the provision of curative, preventive, promotive and rehabilitative health services to the extent that resources are available.

The purpose of this paper is to review new developments in tuberculosis control; i.e. the National Tuberculosis Control Programme technology, its application, acceptability and accessibility at various levels and the issue of integration of the activities into the general health services in accordance with concepts of PHC.

The concept of a National Tuberculosis Control Programme as proposed by the WHO Expert Committees has been successfully implemented in several countries. This is in spite of numerous problems encountered especially in developing countries, such problems as short age of financial, material and human resources, and sometimes a strong reluctance to change traditional and out-moded orientations changed the status of tuberculosis as a clinical speciality and made its control a widely applied community health activity. (3) This has been realized through simplification and standardization of the control activities so that even medical auxiliaries and paramedical staff can carry them out at any health facility including health stations.

Tuberculosis control activities consist of a preventive component, namely BCG vaccination, and a curative component namely case finding/treatment programme.

These control activities must be organized in such a way that they are:-

1. **Country-wide** -because tuberculosis is an urban as well as a rural health problem.
2. **Permanent** -because the majority of a seemingly healthy adult population is infected and a considerable number will develop the infectious type of disease in old age.
3. **Integrated** - because of economic and other resource shortages. A poor developing country cannot afford to run a vertical programme which compromises the other health services.
4. **Based on felt need** -because most tuberculosis cases are so worried about their symptoms that they usually seek medical aid.

¹ National Tuberculosis Control Programme, P .0. Box 21494, Addis Ababa

BCG VACCINATION

BCG vaccine is a suspension of live attenuated bovine tubercle bacilli. The protection it gives against tuberculosis may be expected to vary with the strain of BCG, the viability of the product, the dose administered and the technique applied. Protection of 800/0 has been observed in certain controlled trials

both in terms of disease incidence and of mortality. When vaccination is given at school-leaving age, substantial protection was still observed 10-15 years later.

Epidemiological and Operational Aspects of BCG Vaccination

If BCG vaccination is initiated in a country, or if the coverage obtained in an existing programme is inadequate, a one-time mass campaign is indicated; aimed at covering the eligible population (usually 0 to 15 years of age) in as short a time as possible. Experience in other countries indicates that a coverage of 70-90% can be attained or is a realistic target. (4)

Thereafter a maintenance programme should be initiated to achieve and maintain a high coverage. In the maintenance phase, the general health services are involved. In Ethiopia, BCG vaccination programme is combined with other vaccinations in the EPU programme and concentrate mainly on the age group between 0-2 years.

When initiating a BCG vaccination campaign, one has to bear in mind that -

- a) where infant tuberculosis is a problem, the widest possible coverage with BCG vaccination should be ensured as early in life as possible ;
- b) where the risk of infection is very high, vaccination at school-entrance age is indicated because most infections will then take place before the school-leaving age; and
- c) young adults are often particularly exposed to primary infection with tuberculosis and are more likely to develop disease of the infectious type soon after infection. Hence it is advisable that this age-group be kept immunized, e.g. by vaccination at school leaving age.

Tuberculin testing before vaccination always reduces coverage and more than doubles the cost. However prolonged experience has confirmed the safety and acceptability of direct in vaccination of whole age groups without prior tuberculin testing.

CASE.FINDING TREATMENT

The objective of the National Tuberculosis Control Programme should be to break the chain of transmission. This can be realized through detecting the sources of infection as early as possible (case-finding) and rendering them non-infectious by chemotherapy. The main sources of infection in a community are subjects whose sputum is so heavily positive that tubercle bacilli can be detected by direct smear microscopy. (5) Bearing this in mind, special attention should be paid to the following:

- Patients who present themselves with chest symptoms to any health facility.
- Contacts, especially if they have symptoms.
- Subjects who have had radiographic examination for whatever reason, if it shows a lesion.

Case Finding

From among the several methods of case finding in tuberculosis control, direct smear microscopy remains the method of choice because of its feasibility, efficacy, specificity and low cost. (6) Mass miniature radiography has not been used to a large extent in developing countries and it is not recommended, because it is expensive and gives very low yield. The expansion of culture facilities is recommended only when facilities for direct smear microscopy for self-reporting symptomatics are available throughout the country.

Direct smear microscopy, as a case-finding means, can be applied at hospital, health centre and health station levels in the health care delivery system. In Ethiopia, this is feasible at present at the hospital and health centre level only. A pilot study conducted a few years ago to test the feasibility of microscopic case-finding at health station level, has yielded an encouraging result.

Until such a time that microscopes can be provided to health stations, the major role that can be played by health stations and, community health services will be in recognizing suspects and referring them to the nearest hospital or health centre for microscopic diagnosis.

Case-finding in many developing countries has so far been disappointing. In Africa, not more than 300/0 of the existing smear positive cases are detected. Among the many reasons for this unfortunate state of affairs are:-

- The low coverage by health facilities,
- The shortage of financial, material and human resources,
- The Laissez laire attitude of the few health professionals available in developing countries,
- The unawareness by health authorities of the magnitude of the tuberculosis problem in developing countries, and the Lack of systematic planning and setting of priorities.

Treatment

Since the discovery of the first anti-tuberculosis drug in the 40s, an array of efficient and sometimes expensive drugs has been discovered. The drug treatment of tuberculosis cases in a nationwide programme should meet the following conditions: -

1. Drugs of proven efficacy should be used. This should not mean that the more expensive the drug, the more efficient it is.
2. These drugs should be administered in adequate dosage on regular ambulatory basis. (5)
3. Treatment should be free of charge.
4. Treatment should be permanently available throughout the country, hence integrated into the general health services.
5. Treatment should be supported by a reliable logistics of supply.
6. Treatment should be acceptable to the community .
7. The staff providing treatment should be efficient and understanding.

The above conditions are Set based on the work of many investigators which have shown that:

- Hospital/sanatorium treatment is, in many instances, not essential for cure.
- Regimens consisting of streptomycin, isoniazid and thiacetazone give a cure rate of 90..95%, highly acceptable by the community and the cheapest so far.

All the same, tuberculosis is posing a big problem in poor countries which operate on small budgets and have poorly developed health services. The tragedy of this situation is not so much the large number of cases, but the fact that with the means available (in personnel and health care structures), up to 300/0 only can be diagnosed and only 500/0 of those diagnosed can be cured.

This is because the lack of resources prevents the construction of a sufficient number of health facilities in rural areas in order to deliver health care to those who most need it.

In other cases, it is because the available resources are poorly deployed. For instance, the money spent on building tuberculosis hospitals or running them in some major urban centres would be better spent in building small health stations in the rural areas. The money spent on sophisticated radiological equipment for urban hospitals would be better utilized if microscopes were bought for rural areas.

In some instances the central and regional stores are well-stocked with the necessary medicines, but there is a lack of a proper system of distribution of stock to health units, which requires accurate records of their needs and supplies. As a result, medicines do not reach the patients, and their shelf life expires. Consequently, they have to be discarded without ever having been used. In better organized centrals, the drugs do arrive to the health units, but these are given to patients without

any explanation of how to take them. Without supervision the patients fail to take the drugs regularly and for a sufficient period of time thus making the treatment a failure.

OPERATIONAL STRATEGIES

It is becoming a tradition to initiate and conduct control programmes without doing anything about obvious operational problems such as the following:

1. Planning and programming country-wide control activities without accurate data on the magnitude of problems involved.
2. Running small pilot areas to determine the feasibility of control programmes is virtually unknown, thereby depriving the programmes of the capability to learn from their mistakes made on a small scale.
3. Distribution and storage of supplies pose their own problems.
4. There are difficulties in carrying out supervisory visits from the central and regional levels.
5. The importance of recording and reporting is not given its due recognition.

The above operational problems could be solved by:-

1. Determined leadership and the use of modern managerial techniques.
2. Making fundamental changes in the delivery of health care by adopting and implementation PHC.
3. Training health personnel at all levels.
4. Developing effective supervisory mechanisms.
5. Allotting adequate budget.
6. Involving community participation.

REFERENCES

1. World Health Organization Experts Committee on Tuberculosis, 8th Report, 1964. WHO Technical Report Series, No.290.
2. WHO Experts Committee on Tuberculosis, 9th Report, 1974. WHO Technical Report Series. No.552.
3. 1975. Tuberculosis Control: Progress of the New Strategy. WHO Chronicle 29 pp. 123-133.
4. WHO Tuberculosis unit, 1975. Guidelines for the use of BCG Vaccine in Country Programmes. WHO/TB/75.101. p. 3.
5. Toman, K. 1979. Tuberculosis Case-Finding and Chemotherapy, WHO. Geneva.
6. Nkka, S.J-. 1981. Critical Review of the Application of Tuberculosis Control Technology in Primary Health Care. WHO/TB/81.120. Working Paper.

