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EVALUATION METHODOLOGIES OF TUBERCULOSIS CONTROL PROGRAMMES

by

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Evaluation can be defined as a comparison between the aim of a programme and the results achieved.   The aim of a tuberculosis control programme is to reduce the tuberculosis problem within the shortest possible time.

Improvement of the condition can be detected by studying its epidemiology.   By comparing epidemiological indices in a time span (trends) we can reveal positive or negative changes.

Epidemiological indices

1.   Mortality rate: mortality is not well registered in high prevalence countries. It is also affected by chemotherapy and therefore does not give real information on the size of the problem.

2.   Incidence of newly-registered cases.

3.   Prevalence surveys: such surveys are expensive but helpful for studying the extent of the problem and could be periodically repeated.

4.   Annual tuberculosis infection rates: these can be estimated by repeated tuberculin surveys and indicate the proportion of the population under study which is infected in the course of one year.

Difficulties arise in the case of a previously BCG vaccinated population or a population infected with atypical mycobacteria.   Tuberculin surveys, however, can be done in a sample child population not previously vaccinated and can be repeated yearly.   The improvement can be recorded by the decrease of the infection rate.

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5.   Follow-up of the incidence of tuberculous meningitis is also helpful.

All these indices are interrelated and consequently, by knowing some of them we can estimate the other indices.

If the trend of tuberculosis indices improves it can be ascribed to the activities of the tuberculosis control programme.

Operational evaluation

This evaluation pertains to the comparison of the operational efficiency of the existing tuberculosis services.

Distribution of institutions which actually participate in the programme and their performance: are those institutions enough for diangosis, treatment and BCG vaccination or are more institutions needed?

Evaluation of activities

1.   Number of persons examined.

2.   Number of cases diagnosed as compared to the number of cases detected during the survey.

3.   Treatment coverage;   proportion of patients who completed treatment;   percentage of defaulters;   percentage of cases rendered sputum negative and percentage of relapses which occurred within two years.

4.   BCG evaluated quantitatively by percentage of coverage and qualitatively by measuring post vaccinal tuberculin sensitivity.

Evaluation of resources

1.   Health manpower: number of trained personnel as compared with the number required.   Level of utilization.

2.   Number of institutions and equipment utilized in the tuberculosis control programme, as compared with the number required.

3.   Diagnostic material, drugs and vaccines should be supplied regularly in the quantities required.

4.   Expenditure per capita and percentage of the health budget allocated for the tuberculosis control programme.

The efficiency should be evaluated in terms of cost in proportion to the results achieved (cost benefit), for example cost of the reduction of the infection rate by one per cent or ninety per cent, cost of chemotherapy, cost of detection of one tuberculosis case and cost of one sputum converted case and one BCG vaccination as compared with the expected cost.

The evaluation of a tuberculosis programme should not be sporadic, but should be within the framework of the tuberculosis programme and regularly performed by the health authorities concerned.

Appropriate corrective action should be taken whenever deviation of performance occurs.