Tuberculosis: DOTS treatment success

Rationale for use

Treatment success is an indicator of the performance of national tuberculosis control programme. In addition to the obvious benefit to individual patients, successful treatment of infectious cases of TB is essential to prevent the spread of the infection.

Detecting and successfully treating a large proportion of TB cases should have an immediate impact on TB prevalence and mortality. By reducing transmission, successfully treating the majority of cases will also affect, with some delay, the incidence of disease.

MDG indicator 24 (under Goal 6, Target 8) is the "proportion of tuberculosis cases detected and cured under DOTS". The Stop TB Partnership has endorsed the targets, linked to the MDGs, to diagnose at least 70% of people with sputum smear-positive TB (i.e. under the DOTS strategy), and cure at least 85%, by 2005. These are targets set by the World Health Assembly of WHO.

Treatment success in the 2003 DOTS cohort of 1.7 million patients was 82% on average, edging closer to the 85% target. To reach the target of 85% treatment success globally, a special effort must be made to improve cure rates in the African and European regions.

Definition

The proportion of new smear-positive TB cases registered under DOTS in a given year that successfully completed treatment, whether with bacteriologic evidence of success ("cured") or without ("treatment completed").

At the end of treatment, each patient is assigned one of the following six mutually exclusive treatment outcomes: cured; completed; died; failed; defaulted; and transferred out with outcome unknown. The proportions of cases assigned to these outcomes, plus any additional cases registered for treatment but not assigned to an outcome, add up to 100% of cases registered.

Associated terms

Smear-positive: tuberculosis case where TB bacilli are visible in the patient's sputum when examined under the microscope. For exact definition see reference 5.

New case: TB in a patient who has never received treatment for TB, or who has taken anti-TB drugs for less than one month.

DOTS: the internationally recommended approach to TB control, which forms the core of the Stop TB Strategy (reference 1). The five components of DOTS are (a) political commitment with increased and sustained financing, (b) case detection through quality-assured bacteriology, (c) standardized treatment with supervision and patient support, (d) an effective drug supply and management system and (e) monitoring and evaluation system, and impact measurement. In countries which have adopted the DOTS strategy, it may be implemented in all or some parts of the country, and by all or some health-care providers. Only those TB patients notified by health-care facilities providing DOTS services are included in this indicator.
Data sources

Aggregated reports on TB case treatment outcomes provided annually to WHO by national TB control programmes.

Because treatment for TB lasts 6–8 months, there is a delay in assessing treatment outcomes. Each year national TB control programmes report to WHO the number of cases of TB diagnosed in the preceding year, and the outcomes of treatment for the cohort of patients who commenced treatment a year earlier.

Method of estimation

- Disaggregation

Within a national programme, data should be analysed at the level of basic management unit (typically district health office), before aggregation.

Global targets for TB control refer to treatment success for new smear-positive cases treated under DOTS, the indicator included in this database. WHO also reports treatment success rates from non-DOTS programmes, and treatment success rates for patients who have been previously treated (see reference 5). Both sets of treatment success rates tend to be lower than those for new cases treated under DOTS.

It is also useful, where possible, to analyse treatment success rates disaggregated by drug resistance and HIV status.

References


Database

- Global TB database: (http://www.who.int/tb/country/global_tb_database)

Treatment success rates can be low for a number of reasons. Several factors affect the likelihood of treatment success, including the severity of disease (often related to the delay between onset of disease and the start of treatment), HIV infection, drug resistance, malnutrition and the support provided to the patient to ensure that he or she completes treatment.

Even where treatment is of high quality, reported treatment success rates will only be high when the routine information system is also functioning well. If the outcome of treatment is not recorded for all patients (including those who transfer from one treatment facility to another), this will affect the treatment success rate.

Where treatment success rates are low, the cause of the problem can only be identified by determining which of the unfavourable treatment outcomes is particularly high.