

Prevalence of tuberculosis

Rationale for use

Prevalence and mortality are direct indicators of the burden of tuberculosis (TB), indicating the number of people suffering from the disease at a given point in time, and the number dying each year. Furthermore, prevalence and mortality respond quickly to improvements in control, as timely and effective treatment reduce the average duration of disease (thus decreasing prevalence) and the likelihood of dying from the disease (thus reducing disease-specific mortality).

Millennium Development Goal 6 is "to combat HIV/AIDS, malaria and other diseases" [including TB]. This goal is linked to target 8 – "to have halted by 2015 and begun to reverse the incidence of malaria and other major diseases" – and indicator 24 – "prevalence and mortality rates associated with TB". The Stop TB Partnership has endorsed the related targets of reducing per capita TB prevalence and mortality by 50% relative to 1990, by the year 2015. There are few good data with which to establish TB prevalence and mortality, particularly for the baseline year of 1990. However, current best estimates suggest that implementation of the Global Plan to Stop TB 2006–2015 will halve 1990 prevalence and mortality rates globally and in most regions by 2015, though not in Africa and eastern Europe.

Definition

The number of cases of TB (all forms) in a population at a given point in time (sometimes referred to as "point prevalence"). Expressed in this database as number of cases per 100 000 population. Estimates include cases of TB in people with HIV.

Associated terms

All forms: pulmonary (smear-positive and smear-negative) and extrapulmonary tuberculosis.

Data sources

Prevalence can be estimated in population-based surveys, and each year a small number of countries carry out such surveys. Where available, these surveys are used to estimate prevalence for those countries for the year in question. Elsewhere, prevalence is calculated from estimated incidence. Prevalence estimates for years in which surveys are not available are derived from incidence, as described below.

Methods of estimation

Estimates of TB incidence, prevalence and mortality are based on a consultative and analytical process in WHO and are published annually (see reference 5).

The methods used to estimate TB prevalence and mortality rates are described in detail elsewhere (references 3–5). Country-specific estimates of prevalence are, in most instances, derived from estimates of incidence, combined with assumptions about the duration of disease. The duration of disease is assumed to vary according to whether the disease is smear-positive or not; whether the individual receives treatment in a DOTS programme, non-DOTS programmes, or is not treated at all; and whether the individual is infected with HIV.

Disaggregation

Estimates are routinely disaggregated into smear-positive and other forms of disease, and by HIV status (in adults 15–49 yrs).

References

- The Stop TB Strategy: building on and enhancing DOTS to meet the TB-related Millennium Development Goals. Geneva, World Health Organization, 2006 (WHO/HTM/STB/2006.37).
- The Global Plan to Stop TB, 2006–2015. Geneva, World Health Organization, 2006 (WHO/HTM/STB/2006.35).
- Dye C et al. Global burden of tuberculosis: estimated incidence, prevalence and mortality by country. *Journal of the American Medical Association* 1999, 282:677–686.
- Corbett EL et al. The growing burden of tuberculosis: global trends and interactions with the HIV epidemic. *Archives of Internal Medicine* 2003, 163:1009–1021.
- Global tuberculosis control: surveillance, planning, financing. WHO report 2006. Geneva, World Health Organization (WHO/HTM/TB/2006.362).

Database

- Global TB database: (http://www.who.int/tb/country/global_tb_database)
- United Nations Millennium Development Goals indicator database: (<http://www.unstats.un.org/unsd/mi>)

Comments

Prevalence of disease surveys are costly and logistically complex, but they do provide a direct and accurate measure of bacteriologically confirmed, prevalent TB disease, and can serve as a platform for other investigations, e.g., the interactions between patients and the health system.. Surveys are particularly useful where routine surveillance data are poor.