Maternal mortality ratio (per 100 000 live births)

Rationale for use

Complications during pregnancy and childbirth are leading causes of death and disability among women of reproductive age in developing countries. Maternal mortality ratio (MMR) represents the risk associated with each pregnancy, i.e. the obstetric risk. It is also an MDG indicator for monitoring goal 5 of improving maternal health.

Definition

Number of maternal deaths per 100 000 live births during a specified time period, usually one year.

Associated terms

Maternal death is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes. To facilitate the identification of maternal deaths in circumstances in which cause of death attribution is inadequate, ICD 10 introduced an additional category: Pregnancy-related death is defined as the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the cause of death.

Live birth (see Probability of dying under age 5 years).

Data sources

Vital registration, household surveys, census, health service records and specific studies on reproductive age mortality (RAMOS).

Methods of estimation

Measuring maternal mortality accurately is difficult except where comprehensive registration of deaths and their causes exist. Elsewhere, censuses or surveys can be used to measure levels of maternal mortality. Data derived from health services records are problematic where not all births take place in health facilities because of biases whose dimensions and direction cannot be determined. Reproductive-age mortality studies (RAMOS) use triangulation of different sources of data on deaths of women of reproductive age including record review and/or verbal autopsy to accurately identify maternal deaths. Based on multiple sources of information, RAMOS are considered the best way to estimate levels of maternal mortality. Estimates derived from household surveys are usually based on information retrospectively collected about the deaths of sisters of the respondents and could refer back up to an average 12 years and they are subject to wide confidence intervals. For countries without any reliable data on maternal mortality, statistical models are applied. Global and regional estimates of maternal mortality are developed every five years, using a regression model.

Disaggregation

By age and parity, location (urban/rural, major regions/provinces), and socio-economic characteristics (e.g. education level, wealth quintile).

References


Database

None.

Comments

Maternal deaths are relatively rare events which makes them prone to measurement errors in addition to the problems in their accurate identification. Many low-income countries have no or very little data and modeling is used to obtain a national estimate.