

STATISTIK MORTALITAS

PRODI MANAJEMEN INFORMASI KESEHATAN

MATERNAL DEATH

- **Death of any woman while pregnant, or within 42 days of termination of pregnancy, irrespective of duration and site of pregnancy, from any cause related to or aggravated by the pregnancy, or its management, but not from accidental or incidental causes.**

MATERNAL DEATH

Maternal deaths should be divided into two groups:

(1) **Direct obstetric deaths**

- Those resulting from obstetric complications of the pregnant state (pregnancy, labour and puerperium), from interventions, omissions, incorrect treatment, or from a chain of events resulting from any of the above.

(2) **Indirect obstetric deaths**

- Those resulting from previous existing disease or disease that developed during pregnancy and which was not due to direct obstetric causes, but which was aggravated by physiological effects of pregnancy.

NEONATAL DEATH

- **The neonatal period commences at birth and ends 28 completed days after birth.** Neonatal deaths (deaths among live births during the first 28 completed days of life) may be subdivided into early neonatal deaths, occurring during the first seven days of life, and late neonatal deaths, occurring after the seventh day but before 28 completed days of life.

PERINATAL DEATH

- **A perinatal death is one occurring during the perinatal period, which commences at 22 completed weeks (154 days) of gestation (the time when birth weight is normally 500 g), and ends seven completed days after birth.**

DEATH RATE

Note: Patients who are dead on arrival (DOA) at a hospital are **not** included when calculating these rates.

- hospital death rate
- net death rate
- postoperative death rate
- anesthesia death rate

OBSTETRIC AND PERINATAL RATES

1. caesarean section rate
2. maternal death rate
3. fetal death rate
4. perinatal death rate

HOSPITAL DEATH RATE (GDR)

Hospital Death Rate

- A ratio of all inpatient deaths for a given period to the total number of discharges and deaths in the same period.

Formula

$$\frac{\text{Total number of deaths of inpatients in a given period} \times 100}{\text{Total number of discharges and deaths in the same period}}$$

Example

- A hospital had a total of 15 deaths during the month of June. A total of 540 patients were discharged (including the 15 deaths) during the month. The hospital death rate according to the above formula is:

$$\frac{15 \times 100}{540} = 2.77 \text{ or } 2.8\%$$

NET DEATH RATE (NDR)

- **Net Death Rate**
- **A death rate, also known as the institutional death rate, that does not include deaths, which occur within 48 hours of admission (24 hours of admission in some countries).**
- Previously, it was that those deaths that occur within 48 hours of admission should not be counted because not enough time had lapsed to allow the health care providers adequate time to directly affect the patient's condition. However, with today's technology, this concept is no longer thought to be valid. Therefore, it is recommended that net death rates not be calculated unless there is a special order to do so.

NDR

- Formula

Deaths minus those w/in 48 hours of admission in a given period x
100

Total number of discharges and deaths, minus Deaths w/in 48 hours of admission w/in the same period

- Example

Taking the above example, of the 15 deaths, 4 patients died under 48 hours, leaving 11 patients who died 24 hours or more after admission. The total discharges, including deaths were 540.

According to the formula the deaths under 48 hours of admission are deducted. Therefore, the calculation of the net death rate would be as follows:

$$\frac{15 - 4 \times 100}{540 - 4} = \frac{11 \times 100}{536}$$

$$= 2.09\% \text{ or } 2.1\%$$

POSTOPERATIVE DEATH RATE

- **Postoperative Death Rate**

The ratio of deaths within 10 days after surgery to the total number of patients operated on during that period. Some healthcare providers question the usefulness of this rate, as it is questioned how ten days is considered the “magic number.”

- Formula

$$\frac{\text{Total number of deaths (within 10 days of surgery)} \times 100}{\text{Total number of patients who were operated on for the period}}$$

- Example

During the month of November a hospital performed 275 operations, and 269 patients were operated on. There were 2 deaths that occurred within 10 days of surgery, and 1 that occurred after 10 days. The postoperative death rate according to the above formula is:

$$\frac{2 \times 100}{269} = 0.74\%$$

- Note: it is recommended with small percentages of this nature, that the percentage be left at two decimal places

ANESTHESIA DEATH RATE

- **Anesthesia Death Rate**

The ratio of deaths caused by anesthetic agents during a specified period of time to the number of anesthetics administered. This formula includes those deaths that occurred within 10 days of surgery.

- Formula

$$\frac{\text{Total deaths caused by anesthetic agents} \times 100}{\text{Total number of anesthetics administered}}$$

- Example

During the month of August a hospital performed 750 operations, and 750 anesthetics were administered. There was 1 death due to anesthesia. The anesthesia death rate according to the above formula is:

$$\frac{1 \times 100}{750} = 0.13\%$$

CESAREAN SECTION RATE

- **Cesarean section rate**

A ratio of the number of cesarean sections performed to total deliveries.

- **Formula**

$$\frac{\text{Total number of cesarean sections performed in a period} \times 100}{\text{Total number of deliveries in the period}}$$

- **Example**

During the month of May, 310 deliveries occurred. Of this number 5 deliveries were by cesarean section. Using the above formula, the cesarean section rate is calculated as follows:

$$\frac{5 \times 100}{310} = 1.61 \text{ or } 1.6\%$$

MATERNAL DEATH RATE

- **Maternal Death Rate**

The ratio of maternal deaths to total obstetric discharges, including deaths. NOTE: Deaths due to abortions are maternal deaths even though the patient may have been hospitalized on a gynaecology ward.

- **Formula**

Total number of maternal deaths for a given period x 100

Total number of obstetric discharges, including deaths, for the same period

- **Example**

During May an obstetric hospital discharged 230 obstetric patients, of this number, 1 patient died. Using the above formula the maternal death rate would be:

1 x 100

230 = 0.43 or 0.4%

PERINATAL DEATH RATE

- **Perinatal Death Rate**

The ratio of perinatal deaths to live births and fetal deaths.

- **Formula**

Total number of perinatal deaths in a given period x 100

Total number of live births and fetal deaths in the same period

- **Example**

In the month of May, there were 294 births, including 4 fetal deaths, and 2 babies subsequently died within seven days of birth. The perinatal death rate for May, therefore, was:

6 x 100

294 = 2.04 or 2.0%

FETAL DEATH RATE

- **Fetal Death Rate**

A ratio of fetal deaths to the total number of live births and fetal deaths in a period.

- *Formula:*

Total number of fetal deaths for a given period x 100

Total number of births and fetal deaths for the same period

- **Example**

The fetal death rate, using the perinatal death rate example above, is calculated as follows:

4 x 100

294 = 1.36 or 1.4%