

## Practical 2

### Exercise 1

A population with the following characteristics at the year 2000:

Total population -----	100 000
Annual live births -----	4000
Annual deaths -----	700
Women at the reproductive age -----	20 000
Married women in the reproductive age -----	15 000
No. of individuals develop MI during this year -----	500
No. of individuals with MI in the population -----	1000
No. of individuals died because of MI -----	50
No. of women died due to causes related to reproduction ---	100
No. of babies died during the first yr of life -----	160
No. of babies died during the first 28 days of life -----	20
No. of babies died after 28 wks of gestation -----	8
No. of babies died during the first wk of life -----	8
No. of babies died after 7 days up to 28 days of life -----	12

Calculate appropriate epidemiological indicators.

## Exercise 2

A longitudinal household survey was carried out at 1999 by a team of epidemiologists to generate relevant data on certain aspects of the health status of a given population, the following results were reported:

Total population	-----	50 000
Annual live births	-----	1800
Annual total deaths	-----	300
Annual infant deaths	-----	80
Number of new cases of pneumonia	-----	64
Number of deaths due to pneumonia	-----	2

Use the data above to calculate appropriate rates to describe the health status of the population in 1999.

## Exercise 3

If the incidence of diabetes mellitus is 1% per year and its approximate duration is 5 years, then what is its expected point prevalence?

#### Exercise 4

Total population	50000
Number of total births (LB+SB)	2200
Number of live births	2000
Number of total deaths	400
Number of deaths during first year of life	120
Number of deaths during first week of life	18
Number of persons who developed disease(x)	100
Number of persons who died from disease(x)	4

**Calculate for this population epidemiological parameters related to fertility, morbidity and mortality in the year 2012.**

#### Exercise 5

At the beginning of Jan 2010, the number of known cases of tuberculosis in a population of 25000 was 28. During the year 2010, further 30 cases were reported. All cases were subjected to standard treatment, 15 were completely cured but 2 died during the same year.

Calculate:

- 1- Incidence rate.
- 2-point prevalence at Jan 2010.
- 3-Period prevalence during year 2010.
- 4-point prevalence at end of year.
- 5-case fatality rate.
- 6-cause specific death rate.

### **Exercise 6**

In the study of diabetics, 100 of the 189 diabetic men died during the 13-year follow-up period. Calculate:

1. The risk of death for these men.
2. The prevalence of diabetes.
3. Case fatality of diabetes.

### **Exercise 7**

In an outbreak of gastroenteritis among attendees of a corporate picnic, 99 persons ate potato salad, 30 of whom developed gastroenteritis. Calculate the risk of illness among persons who ate potato salad.

### **Exercise 8**

You talk to all 200 people in your town on a spring day and find 60 of them have allergy symptoms, during the follow up of people throughout spring, another 20 individuals develop allergy. Calculate appropriate rate?

### **Exercise 9**

The annual incidence of the brain tumor glioblastoma is approximately 2.5 / 100,000 people annually in certain country. The median survival at the time of diagnosis is approximately 15 months (1.25 years). What is the prevalence of glioblastoma?

### **Exercise 10**

In district of 1000 population, 100 patients develop typhoid fever, 75 males and 25 females. 20 patients died, 15 males, 5 females, Calculate appropriate rates for this population regarding typhoid fever.