

Practical 3

Exercise 1

A study was carried out to assess the association between talking on a cellular phone while driving and traffic accidents. It finds that out of 800 people using cellular phones while driving, 560 have accidents compared to 140 out of 700 of people who do not use cellular phones have accidents.

1. What is the type of the study?
2. Tabulate the data.
3. Calculate appropriate rates to establish if there is an association between talking on a cellular phone while driving and traffic accidents.

Exercise 2

A study involved 1000 asbestos industry workers to determine the effect of asbestos on lungs. The study found that 150 workers have asbestosis.

1. What is the type of the study?
2. Calculate an epidemiological rate (how many workers were found to have the disease).

Exercise 3

An oncologist determined that 75 out of 100 randomly selected leukemia patients had experienced exposure to ionizing radiation while 60 out of 100 randomly selected healthy individuals who did not differ from patient with respect to age and sex had experienced exposure to ionizing radiation.

1. What is the type of the study?
2. Tabulate the data.
3. Calculate appropriate rates to establish if there is an association between leukemia patients had experienced exposure to ionizing radiation.

Exercise 4

Relative risks of infant mortality associated with different methods of infant feeding are shown in the table below:

Type of milk consumed	Relative risk
1. Breast milk only	1.0
2. Breast milk + powder milk	4.0
3. Breast milk + cow milk	2.8
4. Powdered milk only	11.9
5. Cow milk only	8.3

- what is the type of this study?
- what is meant by “relative risk”? How is it calculated? In which study is it used?
- what conclusion can you make from these data?

Exercise 5

A team of clinical researchers decide to investigate if leukemia responds better to new treatment than to a conventional chemotherapy. They choose suitable patients and randomize to new treatment and control groups (subjects are alike, apart from the exposure to which therapy).

The researchers measure % of tumor responding in both groups blindly.

Q. What is the type of this study?

- ❖ In this study, researchers with patients and randomize to a study group and control group to test an exposure (therapeutic modality) which assigned to researchers; so, this is

Exercise 6

To study the association between low physical activity and coronary heart disease (CHD), a researcher involved 400 patients with CHD and compare them with 400 healthy individuals, both groups were interviewed to assess the level of their physical activity. The researcher found that 160 of patients admitted low level of physical activity compared to only 80 of the healthy group.

1. What is the type of this study?
2. Tabulate the data.
3. Calculate appropriate rates to establish if there is an association between low physical activity
and coronary heart disease.
4. What is the prevalence of coronary heart disease among the 2 groups?
5. Explain your results in epidemiological terms.

Exercise 7

A study was designed to explore the association (if any) between varicose veins and body weight. 400 women with varicose vein were compared to 400 women without varicose vein. Body weight of the two groups were assessed for obesity. 250 individuals with varicose veins were found to be obese, compared to only 100 from the other group. Explore the association (if any) between varicose veins and body weight.

Exercise 8

An epidemiological study was carried out to explore the association (if any) between fatal car accidents and alcohol consumption. 200 individuals who regularly drink alcohol and 300 individuals who do not drink alcohol were followed for 2 years. 50 individuals from the first group died because of car accident compared to only 10 from the other group. Explore the association (if

any) between fatal car accidents and alcohol consumption. If individuals from the first group stop drinking, how much the occurrence of car accidents reduced?

Exercise 9

A study carried out on 1st January 1992 on 1000 workers at asbestos factory, the researchers interviewed and examined the involved workers physically and by chest x-ray, they found that 50 individuals had chronic respiratory problems. Periodic examinations performed every 5 years to assess their health, it was found that 10 individuals developed chronic respiratory problems, and 5 died from the old cases.

1. What is the type of study?
2. Estimate appropriate indicators.