

Types of Study design

Divided into 1) Descriptive studies and 2) Analytical Studies.

1) Descriptive Studies

- Ecological study and
- Cross sectional study also called prevalence study

2) Analytical Study

1) Observational studies and 2) Experimental Studies

Observational studies

1. Case control study
2. cohort study
 - > Prospective cohort study
 - > Retrospective cohort study

Experimental studies

1. Quasi- experimental studies
2. True experimental studies
 - > Randomization
 - > control group

1. Descriptive studies

- In descriptive study, we simply observe and noted down the observation.
- e.g. no. of polio cases observed and divided by total population, we get the prevalence.

Ecological studies

- Ecological studies are done ecologically.
- Basically done when things are not clear even risk factors are not clear
- If there is a new disease or problem and nothing is clear. In this situation ecological studies are done, wherever there is cases you write down all the tributes.
 - simply those studies are done when the risk factors is not known or new disease or Problem arises and you to find out that is known as Ecological study.

Descriptive cross-sectional studies

- It is done in a specified population.
- Observe certain known risk factors.
- It is a snap short and gives the frequency and prevalence.
- E.g., if there are hypotensive patients in the specified population and the risk factor is that they are using fatty diet. You simply observe and noted down that how many of them use fatty diet. If there are 200 hypotensive patients out of 1000 population and use fatty diet then the frequency will be 200per 1000 population or 20 percent is the frequency and if there is specific time then it will be the prevalence.

2. Analytical studies

- analysis is done
- not only observe but also analyzed the data
- trying to find out answers to unanswered questions

Analytical studies are further divided into two types

- 1- observational studies and
- 2- experimental studies

Observational studies are further divided into

- 1- case control studies and PDF
- 2- Cohort studies

Case control studies

- In case control study, we have two groups' cases and control.
- Cases are group of people who have certain disease under study
- Control are those people who have not disease under study
- Define cases and control and then go back and ask them for those events happening in the past
- Find out the risk factors in the cases and control
- Risk factors are studies in both the cases and in the control
- E.g., there is out break of gastroenteritis in the community. People are dying in various localities. People are using water from a tube well. We need a group of people having gastroenteritis(cases) and the other who have no gastroenteritis (Control).Go back and study the risk factors .How many people drink water in the cases and in the control from the same tube well.if 100 people are in the



cases and 90 of them drink water and and become cases and also 100 people in control 90 drink water from the same tube well and are the control. So the risk factor is find out. If they are equal then there is no risk factor and so on.

		Disease	
		+	-
Factor	+	a +++++ +++++	b ---
	-	c ---	d +++++ +++++
		c	d

$$\text{Odd Ratio} = \frac{(+ +) \times (- -)}{(+ -) \times (- +)}$$

$$\text{Odd ratio} = \frac{A \times D}{B \times C}$$

O. R = 1 The risk under study is not a risk factor.

O. R = < 1 The risk factor is protective

O. R = > 1 The risk factor is a risk factor

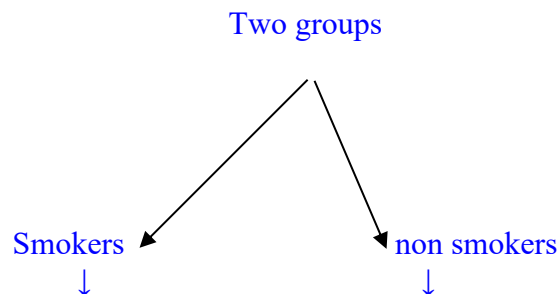
Odd Ratio used you show how much the strength of risk factor.

Cohort studies also known as longitudinal studies

Cohort means a group of people who shared something in common e.g., people born on same date, living in same area etc.

There are 2 groups. Group in which risk factor is present and the other in which risk factor is not present. We observe for a particular time and we see how much the exposed people (group) develop the disease and non- exposed develop disease.

For example smoker and non – smokers and examine for 10 years and see how many of them develop the disease.



Heart disease

Non disease

Risk factor absent

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$$\frac{(A+B)}{C}$$

(C+D)