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## Classification of research

### 1- Descriptive studies.

- A. Case reports and case series.
- B. Correlation studies.
- C. Cross-sectional studies.

### 2- Analytic studies:

- A. Observational studies:
  - i. Case-control study.
  - ii. Cohort study.
- B. Interventional (experimental) studies.

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### First: Descriptive studies

- ❖ Describes the pattern of disease occurrence in terms of person, place, time model or host , agent ,environment model.
- ❖ Defines the relationships of disease to the population at risk.

### **ADVANTAGES OF DESCRIPTIVE STUDIES:**

1. They use available data, so there is less time, less effort and money.
2. Describe disease patterns

### **Types of Descriptive studies:**

#### **A. Case reports and case series.**

##### Case report:

The **individual** is the unit of observation available for study. **clinical case with “unusual” clinical picture**, they describe the experience of a single patient or

a small number of patients with a similar diagnosis reflecting unusual features of a disease. **They help in:**

- ❖ Formulation of a hypothesis suggesting an etiological association
- ❖ Represent the first clues in identification of new disease or epidemic.

**Case series:**

First case report may stimulate compilation of additional case reports. A case series or (are collection of individual cases report occurring within a fairly short period of time.

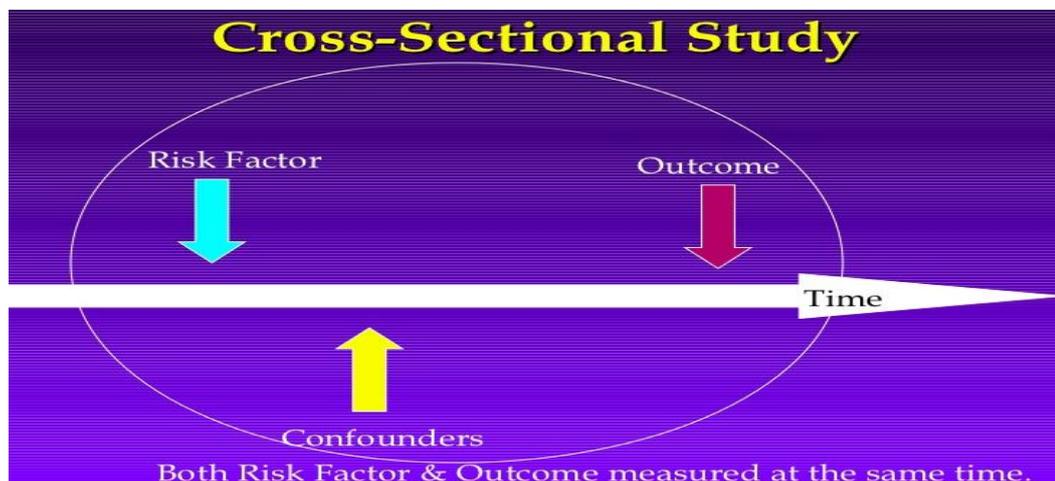
**B. Correlation studies.**

They are based on aggregate measures of exposure and outcome from several populations. The **population** is the unit of observation available for study.

eg: there is a positive correlation between fat consumption and breast cancer in many nations. **ALSO, Ecological studies may be more appropriate than other designs when studying the impact of an exposure on a community level.**

**C. Cross-sectional studies, also known as Prevalence study or Survey:**

1. Collection of data on several individuals at “one point” in time.
2. Determines prevalence at a point in time
3. Therefore, **Cross-sectional** is a prevalence study
4. The exposure and disease status are assessed simultaneously among individuals in a well-defined population.
5. Snapshot in time



**Advantages of cross sectional study:**

1. Provides information on frequency and characteristics of the disease
2. Standardized data collection tool.
3. Able to focus data collection in specific locations or specific groups of persons.
4. May make comparisons among study participants.
5. Relatively quick to do.
6. May be repeated to get data on trends.

**Limitations:**

1. Inability to determine the temporal relationship between exposure and disease.
2. May be biased by lack of participation
3. Reflects prevalent, not incident cases and thus results may be related to duration of disease, or survival with disease