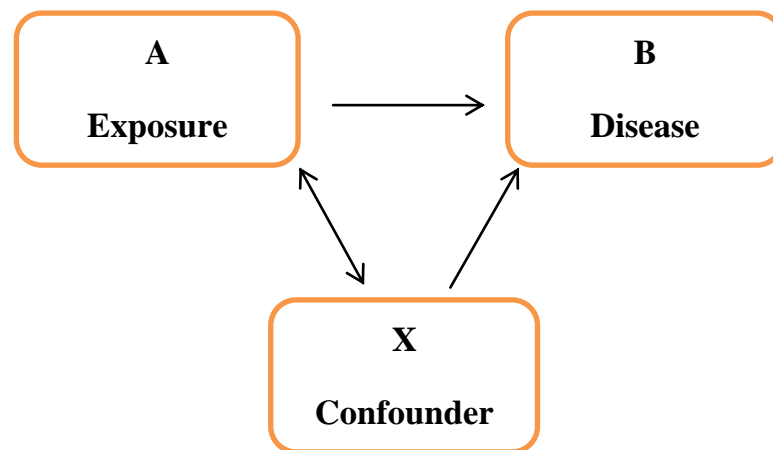


# RESEARCH METHODOLOGY

## Confounding factors

It is a factor associated with exposure and independent of that association be a risk factor for the disease.

So confounding is unlike bias that introduced by the investigator or study participants, confounding is function of complex interrelationship between various exposure and the disease.



### **X confounder**

1. Factor x is known risk factors for the disease.
2. It is associated with factor(A)but it is not a result of factor (A).

### **Impact of confounder**

- 1.It may change the apparent direction of an association.
2. it may create the appearance of cause effect relationship that in reality not exist.

Direction and magnitude: in order to assess the effect of confounding first must evaluate its presence or absence and then to identify the direction and magnitude of its effect.

# RESEARCH METHODOLOGY

Positive effect of the confounding is to produce an observed estimate between exposure and disease that is more extreme either more positive or more negative e.g.:

- Effect of coffee consumption and myocardial infraction. cigarette smoking seems to be positive confounder
- Physical activity and myocardial infraction cigarette smoking is more protective.

More physical activity decreases myocardial infraction

More physical activity decrease smoking.

## **Methods to control confounder in the design**

- Randomization especially in intervention trials.
- Matching.
- Restriction.