Epidemiological Study Designs

Controlled assignment:

يعني الباحث هو اللي "يقرر" مين ياخذ تدخل/علاج ومين لا، مش مجرد يراقب.

Experimental Study:

A study in which the investigator assigns the exposure/intervention to participants.

Community assignment:

Assignment of an intervention to groups (e.g., villages, schools, cities) rather than individuals

Community trial:

An experimental study where entire communities/groups receive an intervention and are compared with other communities/groups

Example :A city-wide anti-smoking campaign compared to a similar city without the campaign

Individual assignment:

Assignment of an intervention to individual participants (each person is assigned to a study group)

Clinical trial:

An experimental study in humans where individuals are assigned to receive an intervention (or control) and outcomes are measured

Example :Randomized clinical trial of a new diabetes drug vs placebo

---

Uncontrolled assignment:

الباحث ما "يتدخل"—بس يراقب مين متعرض ومين لا، ويشوف النتائج

Observational Study:

A study in which the investigator observes exposures and outcomes without assigning the exposure

Descriptive:

A study that describes the occurrence of disease by person, place, and time, without testing a specific causal hypothesis

Cross sectional Study:

An observational study that measures exposure and outcome at the same time (a snapshot at one point in time)

Example :Survey measuring prevalence of hypertension and salt intake in adults in 2026.

بقيّـ:
Prevalence

The proportion of a population that has a disease/condition at a specific time (point) or over a period

وش يعني كم واحد موجود عنده المرض الآن/خلال فترة (لقطة/مخزون)

Survey:

A method of collecting data by asking people questions (questionnaires/interviews) to measure characteristics, behaviors, or outcomes

Case report:

A detailed description of a single patient's clinical features, diagnosis, treatment, and outcome

Example :A report of one patient with a rare vaccine adverse event
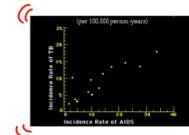
Case series:

A descriptive study of a group of patients with the same disease or exposure, without a control group

Example : A series of 15 patients with a new viral rash

Ecological Study :

An observational study in which the unit of analysis is groups/populations rather than individuals.

Example :Comparing average alcohol consumption and liver disease rates across countries

Analytical:

An observational study that tests hypotheses by examining associations between exposures and outcomes using comparison groups

Sampling with regard to disease :

Participants are selected based on outcome status (disease present vs absent)

Case-Control :

An observational study that starts with cases (with disease) and controls (without disease) and looks back to compare prior exposure

Example : Comparing past smoking exposure in lung cancer cases vs controls.

بقيّـ:
odds ratio

The ratio of the odds of an outcome in the exposed group to the odds in the unexposed group

«وش يعني؟ بدل ما نقارن "risks" نقارن "odds" (نسبة حدوث الشيء إلى عدم حدوثه).

Sampling with regard to exposure:

Participants are selected based on exposure status (exposed vs unexposed)

Cohrt Study:

An observational study that follows exposed and unexposed groups over time to compare incidence of the outcome

Example : Following smokers and non-smokers for 10 years to compare incidence of COPD

1) relative risk

The ratio of the risk (incidence) of disease in the exposed group to the risk in the unexposed group.

وش يعني بالعربي؟ مقارنة "الخطر/الحدوث" بين متعرضين وغير متعرضين.

بقيّـ:
2) incidence rate

The occurrence of new cases of a disease in a population over a period of time

وش يعني؟ يعني كم حالة جديدة ظهرت خلال زمن (تدفق/سرعة دخول حالات جديدة)

By: Mays Aljundi ♥