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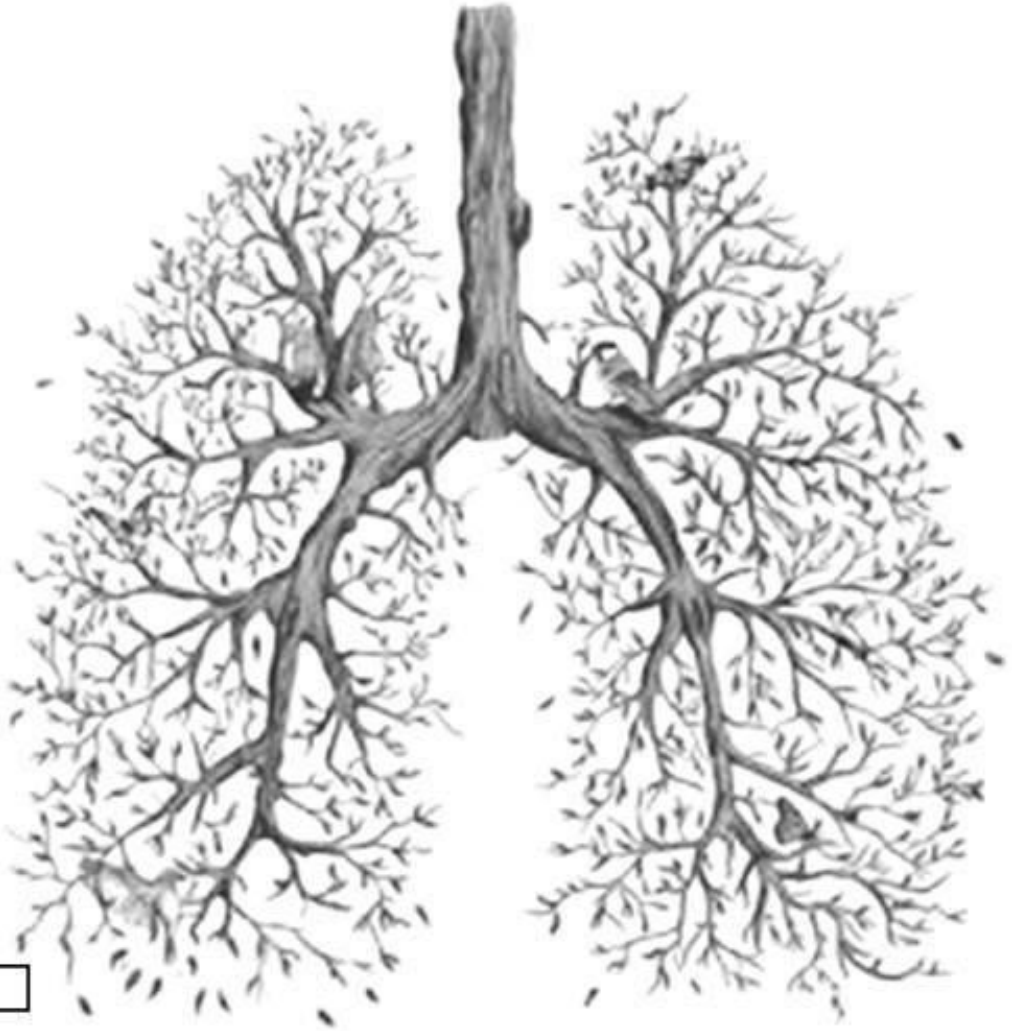
Community Medicine



Slides ☐
Sheet ■

Lecture #22 Doctor: Dr. Ahmad
Date: 18/12/2014 Done By: Abdullah Odeh

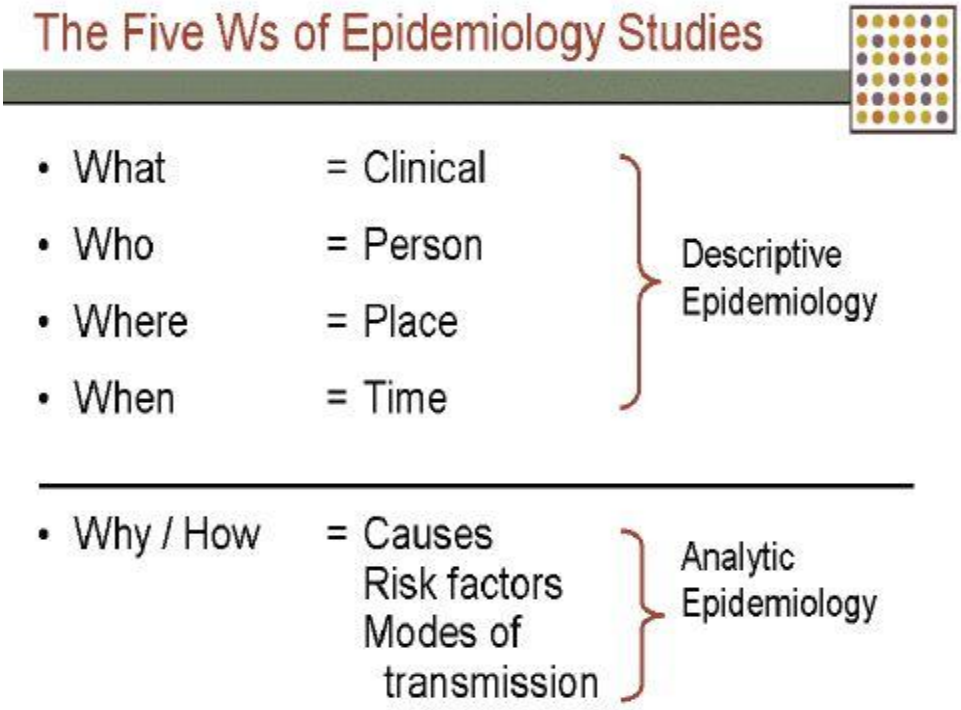
بسم الله الرحمن الرحيم

Community epidemiology review

1. **Epidemic**: A disease that clearly exceeds normal or expected frequency in a community or region.(for e.g. Flu)

2. **Pandemic**: Epidemic with worldwide distribution (for e.g. obesity, HIV, Ebola)

3. **Endemic**: Continuing presence of a disease or infectious agent in a given geographic area means the disease is endemic to that area.



**Final Question:

What is the condition? food poisoning happen for example who is affected ? 20 male or 30 female , where ? when ? this is descriptive .

Descriptive epidemiology: I descript the disease; what? Where? When? Who?

When I did this I can generate hypothesis or formulate hypothesis. That certain Exposure to "E" lead to Disease "D"

e.g. when we eat Shawrma it will cause us diarrhea, abdominal pain, crumbs …etc

-Analytic study to ask Why? and How ??

-causes. –risk factor. –mode of transition.

You are in the process of formulating hypothesis then in the process of testing Hypothesis.

If you're pick a design " cohort, cross sectional, case-control" then you're testing hypothesis

- We said that we have 2 type of study:

1-decriptive. 2- analytic

-Basic Questions in Analytic Epidemiology (**IMPORTANT**)

• Look to link exposure and disease

–What is the exposure?

–Who are the exposed?

–What are the potential health effects?

–What approach will you take to study?

the relationship between exposure and

effect?

Study design Divide into 2 parts :

1-Descriptive:

1-case report.

2- case series .

3- descriptive epidemiology.

2-analytic :

A- Experimental RCT :

1-clinical trials. 2- community trials.

B- Non-experimental "observational" study population:

1-cohort study.

2- case-control study.

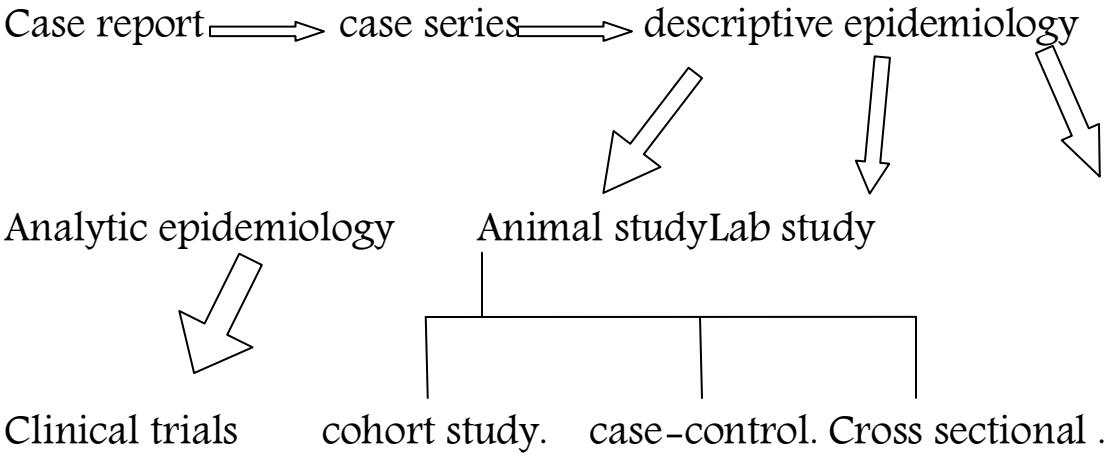
3- Cross sectional.

Ecological study studies the population for example:

We compare Jordanian population with Japanese population regarding liver cancer.

Beta- aphla toxins cause liver cancer, and …… chloride found in plastic industries exposure to it by workers cause liver cancer to them.

Study design sequence: hypothesis formation



**** cross sectional : سطحيه**

-An "observational" design that surveys exposures and disease status at a single point in time.

-use to study chronic condition.

-give us prevalence (number of all existing causes).

e.g. 10 cases with Hypertension out of 100 people; this is **prevalence**.

After 2h for example another 2 cases come, those are **incidence**.

Now total prevalence rate is 10+2 =12

Prevalence: ((old cases + new cases which it is the incidence))

Q: can prevalence equal incidence?

Yes in special causes for example in disease with short duration (deadly disease).

In general >> prevalence is always larger than incidence.

-**disadvantage**: weakest observational design/not good for rare diseases.

-**advantages** : easy / rapid/less expensive.

****case-control :**

Case: disease . Control: no disease.

e.g. lung cancer ; study relation between smoking and lung cancer

we should ask everyone in case and control if they expose to what cause a disease " smoking for example" even it was long time ago "before 10 years"

-this study give us odds ratio (**OR**) :probability of getting sick when you expose to causes of disease . *you have to know how to calculate odd ratio (OR).

-for rare disease.

****cohort study :**

-IR "Incidence rate. – RR " relative risk.

- Multiple diseases

-Look forward to the future

-Advantage:

1-Exposure status determined before disease
Detection.

2-Subjects selected before disease detection.
3-Can study several outcomes for each exposure.

-Disadvantage:

1-Expensive and time-consuming
2- Inefficient for rare diseases or diseases with
Long latency
3- Loss to follow-up; under estimation

****experimental clinical trials:**

Blindness: that the investigator and the team none of them know what is going on except the principle investigator for result to be accurate

-give us the best result.

-the most accurate information

-efficiency of the drug.

RR and OR measure the risk factor

IF :

RR = 1 NO effect ; exposure has no effect on disease .

RR > 1 The exposure has a great effect

RR <1 Protective ; the risk factor protect from the disease .

OR the same as RR

IR = number of cases / population at risk .

Question :

1-cohort study :

-IR and RR . –multi diseases .

2- cross sectional :

-PR - less time - not expensive . –chronic disease

3-case control:

-OR -less expensive and time consuming.

4-clinical trials :

-Efficiency of drug

5-Which type of design is best for study relation between lung cancer and smoking ?

-Case control

6- What is advantage of cohort study ? or disadvantage of cohort?

-Advantage is multi diseases , -and disadvantage is not good for rare disease .

7- which type of study is prevalence study ?

-Cross sectional.

8- Incidence: is number of new cases in the disease .

9- prevalence rate = Old + New cases

10- RR = IR exposed / IR non-exposed

11-deffinition of epidemiology : is defined as the
Study of the distribution and determinants of
health, disease and injuries in human
population

12- Odds ratio : OR = A*D/C*B

	Cases	Control
Risk factor +ve	A	B
Risk facto -ve	C	D

13-detreminant : Factor which increase or decrease the occurrence of disease

14- definition of epidemic , endemic , pandemic " mention previously "

15-randomlization :

a-treatment group . b- comparison group .

16- What is blindness?? Mention above

17-case control : asking about the past "backward"

- cohort : future.

18-cohort : IR and RR - case control : OR.

19-cross sectional disadvantage : إنها سطحيه

-The End-

Sorry for any mistake

Good luck ☺

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