

٣٠ كانون الأول، ٢٠

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



Community Dentistry Third class



Epidemiology

4th lecture

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Objectives

By the end of this lecture will be able to know:

1. Definition of epidemiology
2. Type of epidemiology
3. Main components of epidemiology

Epidemiology

is the **study** of the **distribution** and **determinants** of health-related states or events in specified populations, and the application of this study to the control of health problems.

Oral Epidemiology

can be defined as the study of distribution and determinants of oral health-related states or events in specified populations, and the application of this study to control of oral health problems.

Types of Epidemiology

Two major categories of Epidemiology

1. Descriptive Epidemiology

Defines **frequency** and **distribution** of diseases and other health related events

Answers the four major questions: **how many, who, where, and when?**

Types...

2. *Analytic Epidemiology*

Analyses ***determinants*** of health problems

Answers two other major questions: ***how?***
and ***why?***

Generally, Epidemiology answers six major questions: *how many, who, where, when, how and why?*

Main Components of epidemiology

(1) Distribution of disease: (Distribution Triad)



TIME

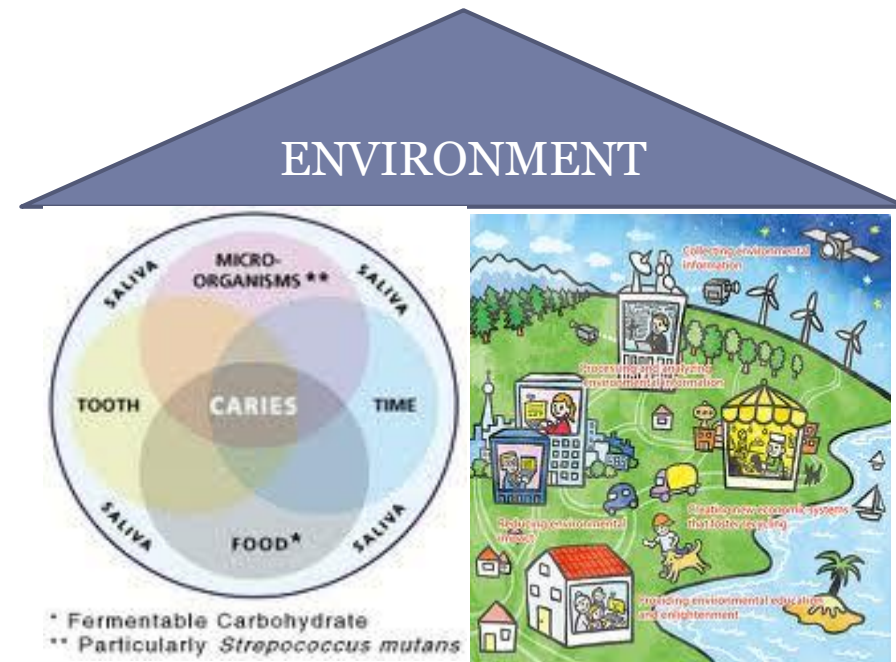


PLACE



PERSON

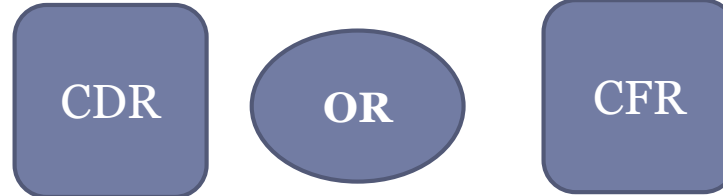
(2) Determinant of disease (Casual Triad) :



Main Components of epidemiology

(3) Disease frequency: (rates, ratios & proportions)
(Measurement of diseases)

Mortality : crud death rate or case fatality rate



Morbidity:

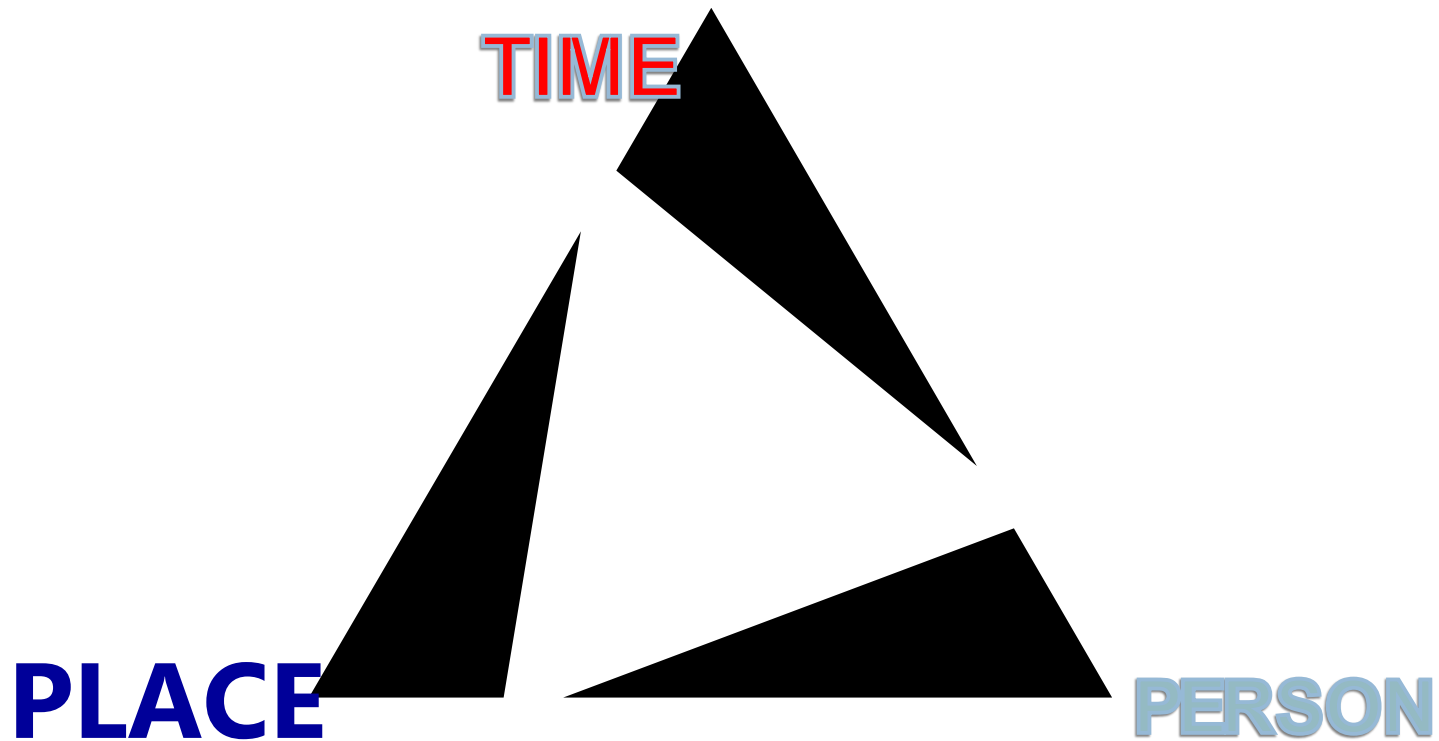


Epidemiological Triad of Distribution (Descriptive Epidemiology)

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The Basic Triad of Descriptive Epidemiology

THE THREE ESSENTIAL CHARACTERISTICS OF DISEASE WE LOOK FOR IN
DESCRIPTIVE EPIDEMIOLOGY:



Place

- **Place distributions**
- **Geographical comparisons**
- To study the geographical variations of disease (Dental caries in Baghdad and **Basra**)
- Factors influencing geographical variations are culture, standards of living, external environment and genetic factors.

Place

1) International:

Dental Caries in USA, Japan, UK, Malaysia, South Africa

2) National:

DM (diabetes) , IHD (ischemic heart diseaes) in Iraq

3) Local:

Studied with the help of **spot maps** in a given area.

Periodontal diseases in Basra???

Sickle cell disease in Basra

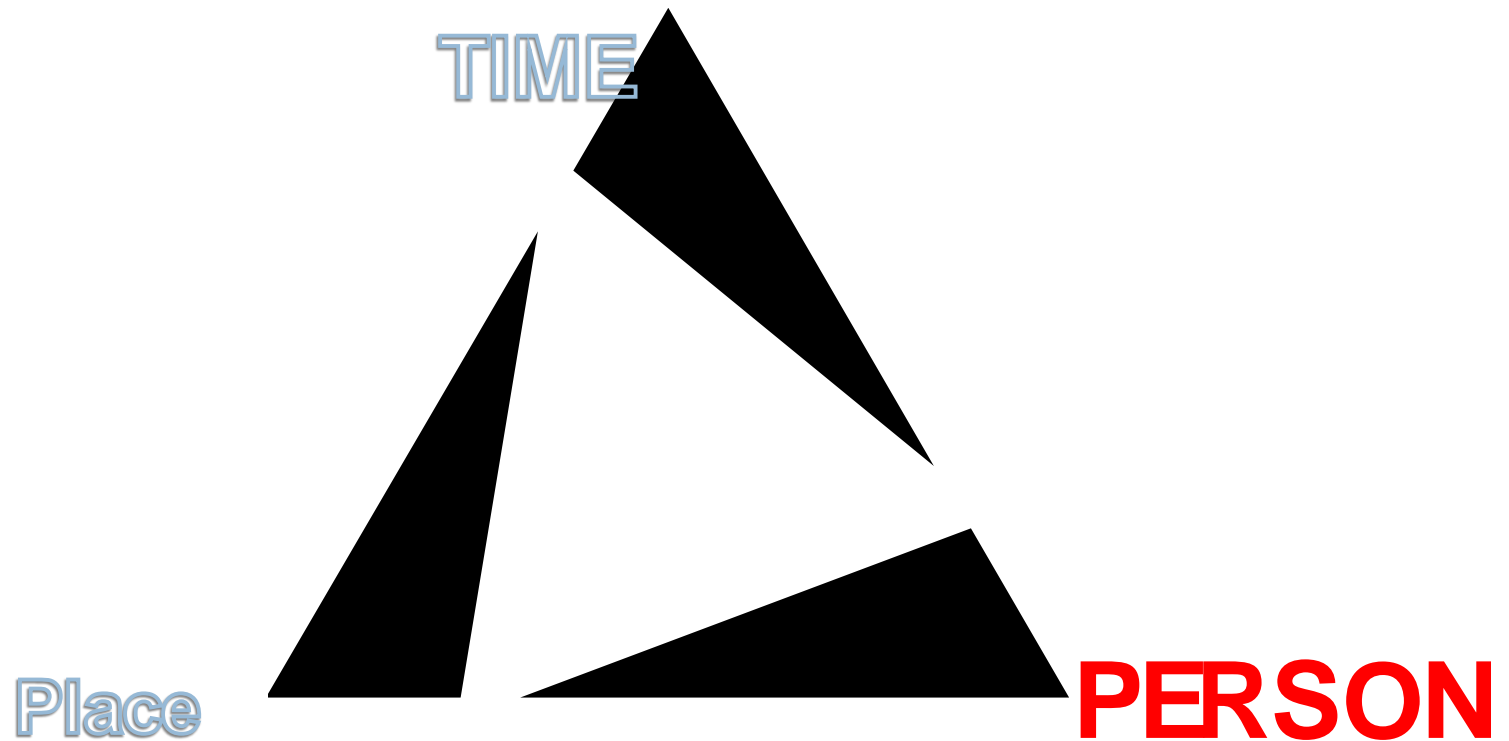
4) Urban- Rural:

e.g.. - Tetanus, common in rural area.

- Road traffic accidents, drug abuse in urban areas.

- More denture wearing in Urban ???

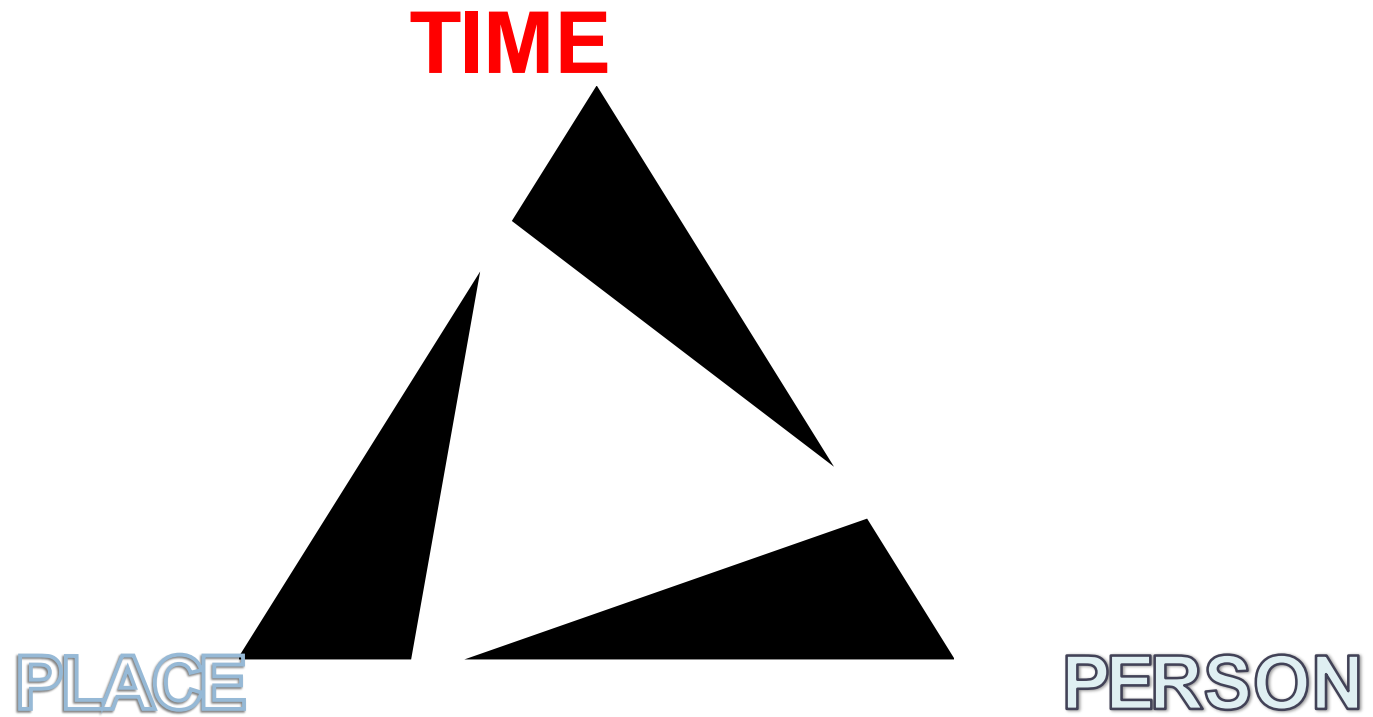
The Basic Triad of Descriptive Epidemiology



PERSON

- 1) Age
- 2) Gender (Male, Female, ??)
- 3) Occupation (agricultural/ Industry) .
- 4) Marriage (Single, married, divorce, separated)
- 5) Residence.
- 6) Socio-Cultural environment.
- 7) Socio-Economic background.
- 8) Stress ???
- 9) Migration ?????

The Basic Triad of Descriptive Epidemiology



Time Distribution

A) Short term fluctuations (hrs, days, weeks)

e,g outbreak. Epidemic

B. Periodic fluctuations (June, December)

Seasonal: Rainy- malaria, filariasis.

Winter- RS infections.

Summer- Diarrhea.

C) Long term or Secular trends

Changes occur over long period of time (usually > 10yrs).

Why we should know time trends?

- Can know diseases which are increasing or decreasing
- Can frame effective measures to control diseases
- Formulate etiological hypothesis
- Provide guidelines to health administrator in matters of prevention or control of disease

For measuring the health of population, we use four types of measurement indicators:

- **Number**
- **Rate**
- **Ratio**
- **proportion**

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Thank You

