

Introduction and objectives of Epidemiology

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Epidemiology /epizootiology

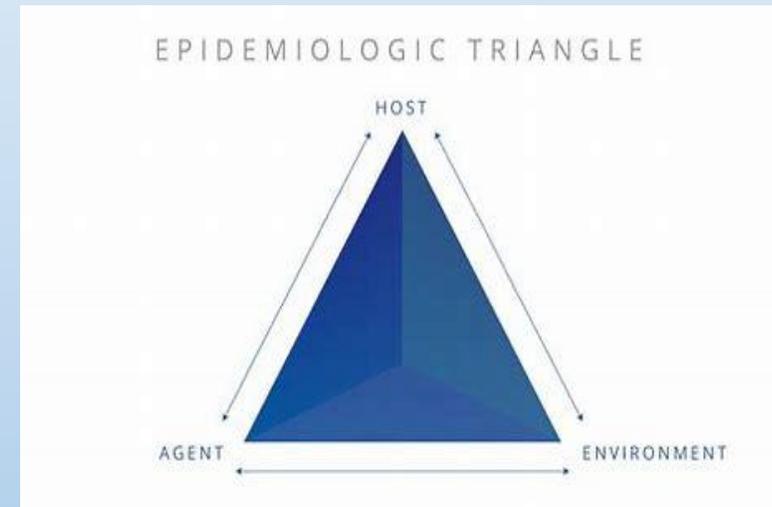
A literal translation of the word 'epidemiology', based on its Greek roots EJerl- (epi-) = upon, (demo-) = people, and (logo-) = discoursing, is 'the study of that which is upon the people'

The investigation of disease in populations is the basis of epidemiology.

There are so many diseases that can be solved by an investigation of disease in population rather than individual.

Definition of **epidemiology**/epizootiology

- Study of diseases in populations and of factors that determine its occurrence.
- **Epidemic/Epizootic/epornitics**
- **Pandemic/Panzootic**
- **Endemic/Enzootic**



Environment

Interaction between agent and environment

Environmental assessment determines "Why was the agent present in the environment in such a way that the host could be exposed?"

Interaction between host and environment

Epidemiology determines "who was exposed?" "When?" "Where?" "How?"

Health

Agent

Host

Interaction between host and agent

Epidemiology determines "what disease?"

Lab identifies and/or confirms agent

Objectives / Uses of epidemiology:

- Determination of the origin of a disease whose cause is known;
- Investigation and control of a disease whose cause is either unknown or poorly understood;
- Acquisition of information on the ecology and natural history of a disease;
- Natural history of a disease is aggregate of all the facts related to animal and plants in relation to occurrence of a disease
- The environment of an ecosystem will affect the survival of agent and host that ultimately affect the occurrence of disease.

- Planning, monitoring and assessment of disease control programmes;

In order to control/eradicate a disease we must consider

- Amount of the disease in that population,
 - Factors associated with its occurrence,
 - Facilities required to control the disease,
 - Costs and benefits involved.
- Assessment of the economic effects of a disease,
 - Analysis of the costs and economic benefits of alternative control programmes.