# **Endemic Disease Control**

Eman Roshdy M.D

May 2016

# common epidemiology terms

- **Endemic disease**: these are diseases, which are habitually present and persist within geographical area, without importation from outside.
- The usual prevalence of a given disease within such an area
  - Communicable: Bilharziasis, T.B
  - Non-communicable: Diabetes, nutritional anaemias, hypertension

- **Hyperendemic:** indicates persistent intensive transmission.
- Holoendemic: means a high level of infection beginning early in life and affecting most of the population.

• Communicable Disease: It is the disease, which result from infection capable of being directly or indirectly transmitted from man to man, animal to animal or from the environment to man or animal.

- Infection: it is the entry and development or multiplication of an infectious agent in the body of man or animal. Infection may or may not lead to disease state.
- Contamination: The presence of an infectious agent on a body surface, clothes, toys, beddings or other inanimate articles or substance including water, milk and food.

- Infectious agent: An organism that is capable of producing infection.
- Infectious disease: A clinically manifest disease of man or animal resulting from infection.

• Communicable period: It is the time during which the infectious agent may be transferred directly or indirectly from infected person to another person, from infected animal to human, or from infected person to animal.

- **Sporadic:** Scattered, occasional or infrequent occurrence of cases widely separated in space and time.
- **Zoonosis:** infectious diseases transmissible under natural between animals and man.
- Epidemiology: The study of distribution and determinants of disease frequency in man.

#### **Disease Surveillance:**

- Exercises of continuous watchfulness over the distribution and spread of infections and factors related to effective control.
- Occurrence of the disease
- Distribution of disease

when

- where

- Who

-spreads

– host

- agent

- spread of the disease
- environmental factors related to the occurrence

#### Surveillance activities

- 1. Detecting and defining the source of infection
- 2. Defining the possible modes of spread.
- 3. Identifying the factors contributing to the occurrence and spread.
- 4. Measures undertaken to disease prevention and control.

#### **Disease Control measures:**

- The basic concept in disease control is to break the link, usually the weakest in the chain of causation, this link could be the
  - Reservoir of infection
  - Routes of transmission or
  - The susceptible host.

### Eliminating the source of infection:

- The method of elimination of the source would depend on whether the source:
  - Human
  - Animal

#### Animals' source

- Destroyed : rabies
- Treated as: Tuberculosis.

#### **Humans source**

- Early detection of cases
- Prompt notification
- Isolation of cases
- Treatment
- Surveillance
- Disinfections

## Blocking the channel of transmission

#### vehicle transmission

- Disinfections of water
- Pasteurization or boiling of milk
- Proper cooking
- Refrigeration of cooked food

#### **Vector transmission**

can be reduced by known methods of vector control

- Insecticide
- Biological control
- Repellent

#### **Transplacental transmission**

 can be minimized through recognition and management through an organized antenatal care.

#### **Parentaral transmission**

- Screening blood & blood product
- Sterile supply

#### **Contact transmission**

 Protecting devices and adhering to known principles of personal hygiene.

#### Air borne infection

Through environmental measures

#### Measures to protect the susceptible host

- 1. Health promotion
- 2. Specific protection
  - Immunization
  - Immune prophylaxis
  - Chemo prophylaxis
  - Health education.

#### **Notifications of diseases**

- Obligatory notification of quarantinable diseases to WHO:
  - Plague
  - -Cholera
  - Yellow fever

#### Disease under surveillance by WHO:

- Poliomyetitis
- Influenza
- Malaria
- Relapsing fever
- Louse borne typhus.

- Obligatory notification to local health authorities and hospitalization is preferred
  - Meningitis
  - hepatitis
  - Typhoid.

#### Notification is highly desirable but isolation not obligatory:

- Measles
- -German measles
- Mumps
- Pertussis
- Tetanus
- -Influenza.

# **ENVIRONMENTAL HEALTH**

WHO defines environmental health as the control of all those factors in man's physical environment, which may exercise a deleterious effect on his physical development, health and survival.

Environmental health related problems in many countries, linked with

- Drinking water
- Poor sanitation
- Low standards of personal hygiene

#### **Objectives:**

1. To prevent diseases related to contaminated drinking water, poor sanitation and low standard of personal hygiene.

1. To improve the quality of life and wellbeing of the population by promoting personal hygiene, family and community hygiene.

#### Activities to achieve the objectives

- Promotion of personal, family and community hygiene.
- Improvement of the system of refuses collection and disposal.
- Improvement of human and animal excreta disposal.
- Protection of water sources and surveillance of drinking water quality.

- Promotion of food hygiene.
- Promotion of proper housing and place of work.
- Control of rodents and insects (vector).
- Prevention of air pollution.

#### Tasks to be performed:

- 1. Recognition of environmental factors which is harmful for health.
- 2. Undertaking corrective measures.
- 3. Continuous monitoring.

# THANK YOU

Eman Roshdy M.D.