



Terminology in Public Health

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Lecture objectives

- To define different terms used in public health setting
- To apply these terms and use them in discussion and writing



Disclaimer

- The content of the terms selected from this lecture was based on the lecture given by Dr Salwa Tayel
- The definitions were modified to align definitions in Park textbook
- These or only a portion of the definitions required for this course
- An extended list of definitions will be provided on a pdf supplement



Defining Health

“a state of complete physical, mental and social well-being and not merely an absence of disease or infirmity”

WHO



Multi-factorial

It is believed that diseases occur due to the interaction of biological, social, environmental, psychological, genetic and economic factors, thus the cause of diseases is ***multi-factorial***



Defining disease

- There is no straight forward definition for disease
- Simplest definition:

“Any deviation from normal functioning or state of complete physical and mental well-being”
- Disease is better explained on a spectrum:
 - i.e. carrier state, subclinical, clinical, severe...etc.



Distinguishing disease from illness and sickness

- Not everyone who has the disease will become ill, and not everyone who has the disease will experience sickness
- Illness
 - “the individual’s perception and behavior in response to the presence of disease, and the disease’s impact on the psychological environment”
- Sickness
 - “A state of social dysfunction; the role that one assumes when he/she is ill”



Risk Factor

A risk factor is an attribute or determinant that is significantly associated with the development of a disease.

From a public health perspective, we are interested in attributes that are modifiable by intervention in order to reduce the possibility of disease occurrence.



Risk Group

A group of the population that have certain characteristics that make them at greater risk for developing a certain disease compared to the rest of the population

Targeting these groups in the prevention and control of diseases is known as “*The risk approach*”



True or False

Risk factor and disease cause are the same

FALSE. Risk factors are considered significantly associated with diseases, but causative association is not necessarily there (except for in certain risk factors). Causation is additive, and diseases occur through interaction of a combination of factors



Epidemiology

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

This encompasses studying disease frequency, its distribution and determinants



Disease frequency

The frequency of disease, disability or mortality are often expressed in the form of measurements

These could be:

- Number of health events
- Proportions (e.g. prevalence)
- Rates (e.g. incidence, mortality rate, birth rate)
- Ratio (e.g. maternal mortality ratio)

Comparing these measurements between populations can give clues about disease etiology



What is meant by Distribution?

Diseases occur in patterns in communities

It is important to study the distribution patterns in different subgroups in the population in order to get clues about causative (or risk) factors.

Distribution of the patterns is studied by person, place and time.



Determinants of Health

These are a range of personal, social, economic and environmental factors that determine the health status of individuals or populations

Personal or proximal determinants of health include:

- age
- sex
- genetic factors
- Life style factors such as smoking habits, diet and physical activity



Basic terminology related to studying communicable diseases



Infection

The entry and development or multiplication of an infectious agent in the body of man or animals

Infections do not always cause illness

Levels of infection:

- *Colonization*
- *Subclinical (unapparent)*
- *Latent infection*
- *Clinical (manifest)*



Difference between the terms “Communicable Disease” and “Infectious Disease”

Communicable disease

A disease due to a specific infectious agent or its toxic products capable of being directly or indirectly transmitted from man to man, animal to animal, or from the environment (through air, dust, soil, water, food, etc.) to man or animal

Infectious disease

A clinically manifest disease of man or animals resulting from an infection

Contagious disease

A disease that is transmitted through contact

Questions to think about



Are all communicable diseases infectious diseases?

Are all infectious diseases communicable diseases?

Are all infectious diseases contagious diseases?

Are all contagious diseases infectious diseases?



Contamination

The presence of an infectious agent on a body surface; also on or in clothes, beddings, toys, surgical instruments or dressings, or other inanimate articles or substances including water, milk and food.



Infestation

The lodgement, development and reproduction of arthropods on the surface of the body or in the clothing

Endemic, Epidemic, Pandemic, Outbreak



- **Endemic:**

- The constant presence of usual prevalence of a disease in a given geographic area

- **Epidemic:**

- The sudden increase in the number of cases for a certain disease above what is normally expected in that population

- **Pandemic:**

- When an epidemic spreads over several countries usually affecting a large number of people

- **Outbreak:**

- It is an epidemic that occurs in a limited geographic area (e.g. an institution, a home facility, a neighborhood, a village...). i.e. a localized epidemic

Source: *U.S. Department of Health and Human Services. Principles of Epidemiology in Public Health Practice (third Ed). 2008. Available at: <https://www.cdc.gov/ophss/csels/dsepd/ss1978/ss1978.pdf>*



Sporadic

- scattered about.
- The cases occur irregularly, haphazardly from time to time, and generally infrequently
- cases are so few and separated widely in space and time that they show little or no connection with each other, nor a recognizable common source of infection

Zoonitic disease (zoonosis)



An infection or infectious disease transmissible under natural conditions from vertebrate animals to man.

Nosocomial infection



An infection originating in a patient while in a hospital or other health care facility.



Difference between sterilization and disinfection

Disinfection

Thermal or chemical destruction of pathogen and other types of microorganisms

Sterilization

A validated process used to render a product free of all forms of viable microorganisms including bacterial spores.



References

Park K. Park's textbook of preventive and social medicine. 23rd Edition. Jabalpur : M/S Banarsidas Bhanot, 2015.