

# Introduction to Community Medicine

## Community: (Population)

### Definition:

“The Community is a large number of individuals living together in defined geographical area and having common interests, goals & ways of life.”

Or is a group of people who have things in common & who recognize and aware of that commonality.

### Examples:

- Geographic communities
- Health center catchment's area, a district, a province, or a country.
- A specific population group.

## Community Medicine:

Community Medicine is defined as;

“a system of delivery of comprehensive health care to the people by a health team in order to improve the health of community.” (**WHO Definition**) “

It also defined as:

The art & science of *preventing diseases, promoting health & prolonging life through the* organized efforts of society.

- It deals with the health of the whole population.
- Looks at the community (population) itself as a patient.
- Deals with the community as a social system and with the structure, function & dysfunction of such system.

Community Medicine is a new branch of medicine. It is often considered synonymous with **Preventive and Social Medicine, Public Health, and Community Health**. All these share common ground, i.e., prevention of disease and promotion of health.

These terms are often used interchangeably.

**The Aims of Preventive (Community) Medicine** are to promote and preserve health in individuals and community by adoption of healthy life style and health education; prevent and limit diseases; enhance

quality of health care system and assure that all populations have access to appropriate and cost effective care; and to use epidemiology to assess and monitor the health of communities and populations at high risk to identify health problems.

**Prevention:** Is the anticipatory action taken to reduce the possibility of an event or condition occurring or developing, or to minimize the damage that may result from the event or condition if it does occur.

*Prevention* may take place at any point along the spectrum of the disease, from the prevention of the disease or injury to the prevention of impairment, disability or dependency.

### **Levels of prevention:**

**1- Primordial prevention:** (Acting on risk factor) consists of actions and measures that inhibit the emergence of risk factors in the form of environmental, economic, social, and behavioral conditions and cultural patterns of living etc.

**2- Primary prevention:** (Acting before disease occurrence) Activities designed to prevent onset of disease. We act before the development of the sign and symptoms of the disease. Ex: Immunization, ban on smoking, speed limit, seat belts.

**3- Secondary prevention:** (Acting after disease occurrence) Early identification of health problems to reduce the risk of progression or transmission. Ex: Early diagnosis of HT, DM, cervical CA, breast CA, STD.

**4- Tertiary prevention:** (Acting after complications occurrence) Focused on rehabilitation to reduce the impairment. Ex: Learning to walk after stroke, adjusting diet and life style after MI, learning to live with DM.

So, prevention is any intervention that seeks to reduce or eliminate diagnosable conditions and may be applied at individual level, as in immunization, or the community level, as in the chlorination of the water supply.

### **History of public health & community medicine:**

The value of primary prevention was known to mankind for many centuries. Early in human civilization, it was recognized that polluted water and lack of proper waste disposal may spread vector-borne disease. By Roman times, it was well understood that proper diversion of human waste was a necessary tenet of public health in urban area.

The practice of vaccination did not become prevalent until the 1820s, following the work of Edward Jenner. The science of epidemiology was

found by John Snow's identification of polluted public water as the cause of an 1854 cholera outbreak in London. Microorganisms were first identified in 1880s by the germ theory of Robert Koch and Louis Pasteur and the production of artificial vaccines revolutionized the study of infectious diseases and introduced the modern era of public health. Public Health has become an important specialty in developed countries in the early of 19<sup>th</sup> century. The development of public health policies and programs required intersectoral collaboration to understand the cause and prevention of diseases.

Medicine is one of the most ancient professions that evolved over time and developed further by different civilization. Until the 18<sup>th</sup> century all the doctors were general medical practitioners who treat all people from all diseases. The 20<sup>th</sup> century has witnessed a real revolution of medicine and considered as the era of specialization in medicine.

The 4 major medical specialties of "curative medicine": General Medicine, General Surgery, Pediatrics, and gynecology & Obstetrics have paved the way for more and more specialties later on. The Preventive (Community) Medicine has stand hand by hand with other specialties concentrating more on preventive aspects and act as bridge between practice of medicine and Public Health.

**Family Medicine** as specialty was recognized in Europe and America in the 1950s. Although it is new and modern specialty, some may see it as the father of all medical specialties as it resembles the general medical practitioner. The benefits of incorporating prevention into medical practice have become increasingly apparent over the past 30-40 years, as many serious diseases have decline in incidence following the introduction of effective clinical preventive services: Ex: Poliomyelitis which occur in regular epidemic waves (over 18300 cases in 1954), have become rare in the USA as well as many other countries as a results of childhood vaccination. Other Ex: Rubella epidemics occurred regularly in the USA every 6-9 years (in 1964 caused 12 million rubella infections, 11000 fetal losses and about 20000 infants born with congenital rubella syndrome. But now rubella is very rare since 1969 when the vaccine first became available.

**Evidence Based Medicine (EBM)** was first described in 1992. It was hailed as a new approach to teaching medicine and was once describe as "revolution" in the medical practice. **EBM** is defined as the conscientious, explicit, and judicious use of current best available evidence in making decision about the care of the patients. The practice of EBM calls for the integration of individual clinical expertise with the best available external evidence from systemic researches.

**Preventive Medicine sciences:** Include a set of biological, epidemiological, statistical, social, and economical sciences and practices intended to measure, protect, and promote health on a population level. It provides an exciting opportunity for physicians who are interesting in developing skills in clinical and preventive health services to promote health and reduce the risks of disease, disability, and death in individual and population.

### **Public Health Problems:**

#### **1. In Developing Countries:**

- Infectious diseases e.g. TB, malaria...etc.
- Malnutrition.
- Poor health education.
- Limit access to health services.

*((Problems associated with poverty and overcrowding))*

#### **2. In Developed Countries:**

- Chronic diseases e.g. IHD, HT, DM...etc.
- Over nutrition and obesity.
- Violence and drug addiction.
- Environmental pollution e.g. air pollution, ozone layer depletion...etc.

*((Problems associated with industrialization, affluence, aging, violence, and medical intervention))*

### **Scope of Community Medicine:**

- Medical statistics (Biostatistics)
- Nutritional health and Nutritional disorders.
- General epidemiology
- Primary Health Care: Includes:
  - Maternal and child health care including family planning.
  - Health education.
  - Mental health.
  - Geriatric Health
- Epidemiology of communicable diseases
- Epidemiology of non communicable diseases (chronic diseases)
- Occupational Health
- Environmental Health
- Health Care Administration

