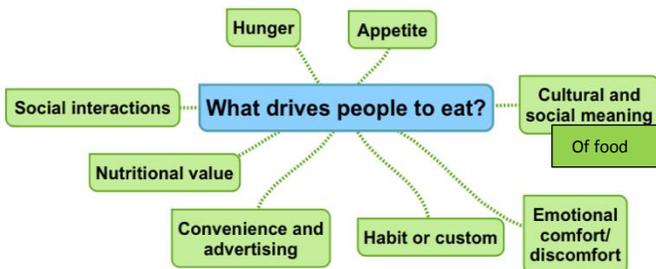


Introduction to nutrition

Nutrition is the science/study of nutrients that come from food, their action, interaction, and balance in relation to health and disease; (in human population within the body of the human being) and the process by which the organism (body) ingests, digests, absorbs, transports, utilizes and excretes food substances.

Public health nutrition is part of the public health system since it's an essential aspect of the conditions in which people can be healthy.

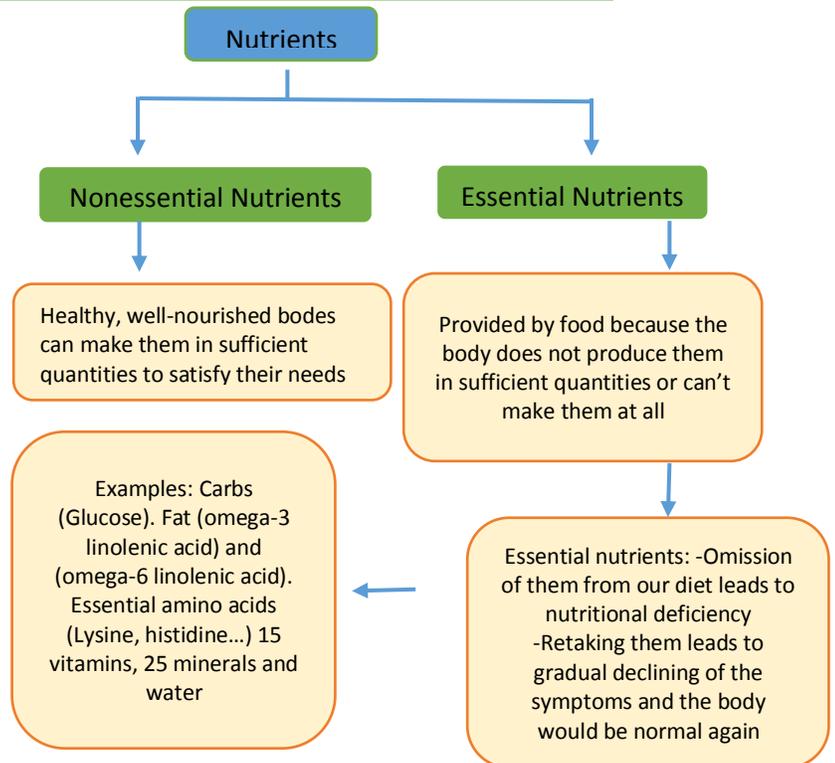
Public Health is defined as "the art and science of preventing disease, prolonging life and promoting health and the lifestyle through the organized efforts of society"
The main mission of public health is "to assure conditions in which people can be healthy and function in a healthy way"



Nutrients: chemical substances in food that nourish the body by providing energy, building materials, and factors to regulate needed chemical reactions." There are two types of nutrients, essential & nonessential nutrients.

Functions of nutrients:

- 1-Provide energy sources.
- 2-Build tissue.
- 3-Regulate metabolic processes.



Nutrients can also be classified into:

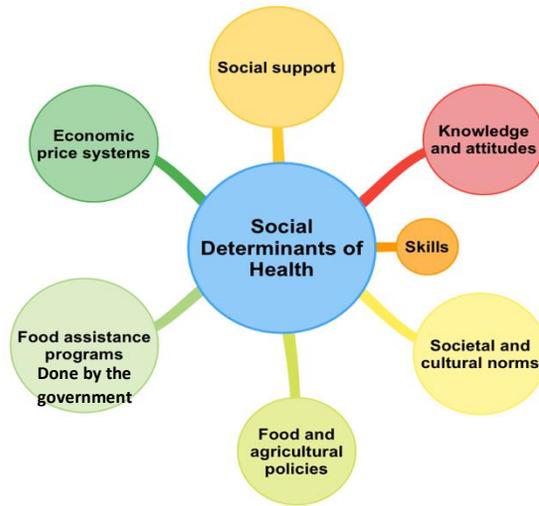
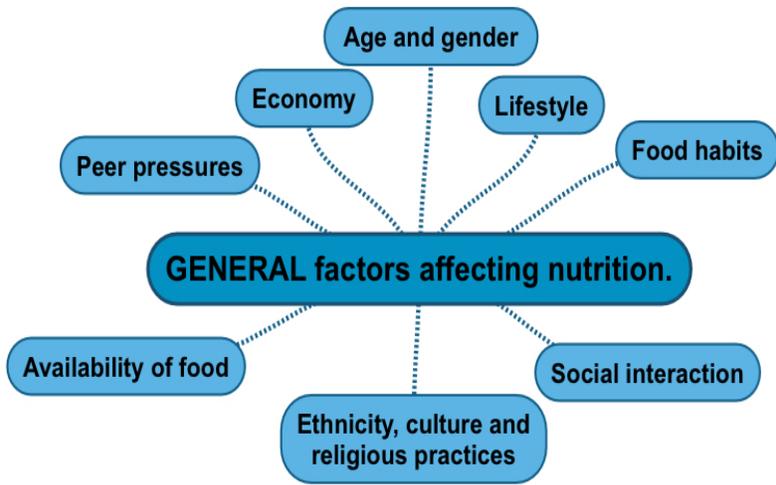
A-**Macronutrients** (Carbs, fats and proteins) : For energy, needed in large quantities.

B-**Micronutrients** (Vitamins, minerals ,and water) Needed in smaller amounts.

Six Categories of Nutrients

Carbohydrates, (C+H+O) Small molecules called sugars and large molecules represented mainly by starch.	Lipids (fats and oils) (C+H+O) Less amount of O ₂ here. Triglyceride is the main form of food fat.	Proteins, (C+H+O+N.. and sometimes sulfur) composed of amino acids.
Vitamins (both soluble and insoluble) organic compounds that serve to catalyze or support reaction.	Minerals, inorganic elements or compounds that help in metabolic rxns and serve as structural components in body (e.g bone)	Water, vital to body as a solvent and lubricant and a medium for transporting nutrients and waste.

Introduction to nutrition



#PHC strives to improve or maintain optimum nutritional health of the whole population

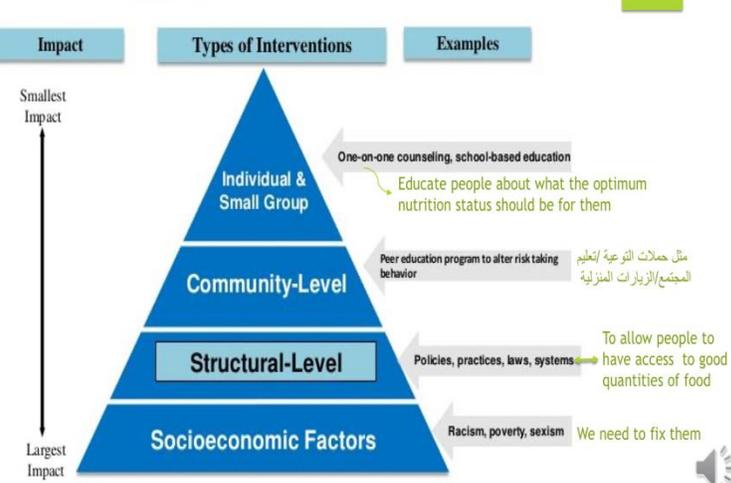
Community nutrition efforts involve a wide range of programs that provide:

- 1- Increased access to food resources.
- 2- Nutrition information and education.
- 3- health related care.
- 4- efforts to change behavior and environment.
- 5- initiate policy.

Public Health Practice Compared to Clinical Nutrition Practice:

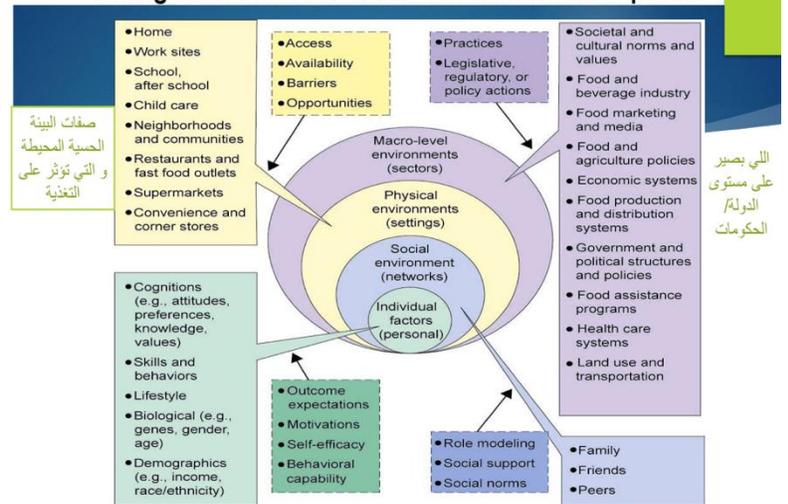
	Public Health Practice	Clinical Health Practice
Focus	Prevention of problems	Disease treatment
Target	Populations	Individuals
Setting	Country, districts and communities.	Clinics and hospitals
Strategies	Multiple, reinforcing	Counseling and education.

Types of Interventions



Adapted from: Frieden TR. Am J Public Health. 2010;100:590-595

Ecological Framework for Influences on What People Eat



Story M, et al. 2008. Annu. Rev. Public Health. 29:253-72

Introduction to nutrition

Basic issues related to health and nutrition:

- Iodine and vitamin A deficiencies.
- Starvation and widespread chronic hunger.
- Malnutrition.
- Micronutrient deficiencies including iron
- Diet relation communicable and non-communicable diseases.
- Impediments to optimal breastfeeding
- Inadequate sanitation, poor hygiene.

*Food and nutrition policy is a policy with preventative and clinical health perspectives based on human rights.

The basic idea is that all members should be granted enough food to grow and develop without disorders due to malnutrition (under or over).

-So they developed an integrated approach with collaboration among all relevant government ministries, NGOs and UN agencies.

-Improving nutritional status is a global health challenge that

requires effective action across number of areas including: social welfare, gender equity, food, sanitation, education etc...

-General Examples of nutrition related problems : Mortality, Infection, Cognitive impairment, lower work productivity, early onset and higher risk of non-communicable diseases (NCDs), stigma and depression.

-Dietary factors are associated with 5 of the ten leading causes of death and these are: Coronary heart disease, Some types of cancer, Stroke, Non-insulin dependent diabetes (type2), and atherosclerosis.

-Note: overweight and obesity are estimated to affect nearly 1/3 of the world population.

Childhood

Major nutritional problems: Overweight and obesity, Iron deficiencies, dental caries, allergies, lactose intolerance.

Overweight/Obesity: increasing prevalence, influenced by access to food&eating tied to leisure activities & children making food decisions, portion sizes&inactivity.

Consequences of Obesity: discrimination, negative self-image, depression, decreased socialization. increased cardiovascular risk factors: hyperlipidemia, hypertension, hyperinsulinemia and diabetes type 2.

Interventions for Obesity in children: Family involvement, dietary modifications, nutrition information, physical activity, behavioral strategies and prevention of obesity.

Adolescence

Nutritional problems: Overweight and obesity and its co-morbidities hypertension, hyperlipidemia and diabetes type 2. (Hyperlipidemia and hypertension are onset of CVDs during youth).

Teens are nutritionally vulnerable because of increased need for nutrients at a time of changing lifestyle and food habits.

Consequences of Obesity: increasing prevalence of overweight and obese teenagers, multi-factorial health issues, short-term and long term health outcomes, hyperlipidemia, hypertension, cardiovascular diseases

Factors Influencing Food Habit: decreasing influence of family, increasing influence of peers and media exposure and prevalence of employment outside home and responsibilities (less family time).

Introduction to nutrition

Adolescents go through a process of development and growth that includes: physiologic changes, puberty and sexual maturity, growth velocity, independence and autonomy , body image.

Food Habits for adolescents may include: irregular meals, excessive snacking, eating away from home (especially fast food), dieting and meal skipping (causes deficiencies).

Done by: Lubna Alnatour.

Corrected by: Ghazal Al-Attiyat.