

**University of Al-Anbar  
College of Medicine  
Department of Community Medicine**

**Foundations of Medicine  
Introductory Course to the Concepts of Health,  
Disease and environment**

**By**

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## CONCEPTS OF HEALTH AND DISEASE

### Health

The concept health may mean different things for different people. Health may simply mean the absence of disease or it may mean the soundness of body. The World Health Organization (WHO) defined health as “**A state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity.**”

The main problem with this definition, is the lack of agreement on the meaning of the term” complete” which remained difficult to quantify but encouraged almost all countries to work towards the improvement of the health of their people. A more practical definition of health is follows: **Health is a state of successful adaptation of the body to stresses and stimuli to which it is subjected.**

The successful adaptation may be optimal and the attributes of optimality are:

1. Anatomical integrity to ensure the physical aspect of health.
2. Ability to do normal duties at personal, family and community level.
3. Ability to deal with stress whether this stress is physical, mental or social.
4. Feeling of well being. This is the mental or psychological dimension of health.
5. Freedom from disease and premature death.
6. Spiritual and moral stability.

Thus, health may be seen as extending over a spectrum. At one end of the spectrum is the optimal health and at the other end is the end of any health or death.

**Optimal health-----Death**  
(Optimal health----- better health----- freedom from sickness-----  
-- unrecognized sickness----- mild sickness----- sever sickness-----  
----- death)

## **Health has many dimensions:**

1. Physical dimension.
2. Mental dimension
3. Social dimension.
4. Spiritual and ethical dimension.
5. Emotional dimension.
6. Vocational dimension
7. Other dimensions, philosophical, socioeconomic, medical, environmental.

### ***Physical dimension:***

The state of physical health implies the notion of perfect functioning of the body. Every cell and every organ functioning at optimum capacity and perfect harmony with the rest of the body.

### ***Mental dimension:***

Mental health is not mere absence of mental illness, it is the ability to respond to varied experiences of life, “ a state of balance between the individual and surrounding world, a state of harmony between oneself and others.

### ***Social Dimension:***

Harmony and integration a) within the individual, b) between each individual and other members of the society, c) between individuals and world in which they live.

**Definition** :- Quantity and quality of an individual’s interpersonal ties and the extent of involvement with the community.

### ***Spiritual Dimension:***

Includes integrity, principles, ethics, purpose in life, and commitment.

### ***Emotional Dimension:***

The emotional dimension of wellness emphasizes an awareness and acceptance of one's feelings.

***Vocational Dimension:***

Work – fully adapted to human goals, capacities and limitations

Work often plays a role in promoting both physical and mental health

What happens in case of sudden loss of Job, after Retirement

***Other dimensions:***

- Philosophical
- Cultural
- Socioeconomic
- Environmental
- Educational, nutritional
- Medical dimension

**Disease (dis-ease):**

Disease is the failure of the adaptive mechanism of the body to overcome external stress and stimuli to which it is exposed, resulting in abnormal structure and / or function of one or more of its tissues, organs or systems. Such abnormality is either reversible or irreversible.

The risk of disease is not the same for every individual in any given population. It is also variable from one population to another at one time and in the same population at different times. To give examples, The risk of diabetes mellitus is not the same for every individual in the population of Alanbar,

The same argument may be used to explain the variation in the risk of disease in different populations. It is definite that the prevalence of hypertension is higher in many industrialized countries than in some underdeveloped countries.

## **Determinants of Health and disease:**

Health of individuals and communities may be considered to be the result of many interactions:

### ***1. Biological Determinants:***

Genetic makeup: A number of diseases are genetic in origin,

- Chromosomal Anomalies
- Mental Retardation
- Types of Diabetes

### ***2. Behavioral & Socio-cultural conditions:***

Lifestyles are learnt through social interactions with parents, peer groups, friends, siblings, through School and mass media.

- Smoking, alcoholism, drug addiction; diseases like coronary heart disease, obesity, lung cancer are associated with life style changes
- Adequate nutrition, enough sleep, sufficient physical activity, etc. are good lifestyle
- Healthy lifestyle leads to Optimum Health.

### ***3. Environment:***

Factors like housing, water supply, psychosocial stress, family structure, social & economic support system, Organization of health services have a direct impact on the physical, social and mental health or wellbeing of those living in it.

### ***4. Socio-economic Condition:***

- Economic status
- Education
- Nutrition
- Employment
- Housing
- Political System

# Foundation of Medicine

## Lectures 4 & 5

### **Epidemiology:**

Is the study of the frequency, distribution and determinants of health related states and events in populations, and the application of this study to control health problems.

### **Infection:**

Infection is the entry and development or multiplication of an infectious agent in the body of man or animal.

#### **There are several levels of infection:**

- 1- Colonization (*Staph aureus* in skin and normal nasopharynx)
- 2- Subclinical or inapparent infection (*polio*).
- 3- Latent infection (*virus of herps simplex*)
- 4- Manifest or clinical infection.

### **Infectious disease:**

A disease of man or animal resulting from an infection. A disease caused by invasion of the body by an infectious agent such as bacteria, fungi or viruses.

### **Communicable disease:**

An illness due to specific infectious agent or its toxic products which develops through transmission of that agent or its toxic products from a reservoir to a susceptible host either directly or indirectly.

### **Contagious disease:**

Is a communicable disease that is transmitted through direct contact. Examples include scabies, trachoma sexually transmitted diseases and leprosy.

### **Contamination:**

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

### **Infestation:**

It is the lodgment, development and reproduction of arthropods on the surface of the body or in the clothing, e.g: lice. This term could be also used to describe the invasion of the gut by parasitic worms, e.g: ascariasis.

**Nosocomial infection:**

Nosocomial (hospital – acquired) infection is an infection originating in a patient while in a hospital or another health care facility. It has to be a new infection unrelated to the patient's primary condition. Examples include hepatitis B and urinary tract infections.

**Opportunistic infection:**

This is infection by organisms that make the opportunity provided by a defect in host defense (immunity) to infect the host and thus cause disease. For example opportunistic infections are common in AIDS. Organisms include Herpes simplex, cytomegalovirus, Mycobacterium tuberculosis.

**Zoonosis:**

Is an infection that is transmissible under natural conditions from vertebrate animals to man. E.g: rabies, brucellosis.

**Endemic:**

It refers to the constant presence of a disease or infectious agent within a given geographical area or population group. It is the usual or expected frequency of disease within a population.

**Epidemic:**

The occurrence in a community of disease, specific health related behavior, or other health related events clearly in excess of expected occurrence.

**Sporadic:**

The word sporadic means “scattered about”. The cases occur irregularly, haphazardly from time to time, and generally infrequently. The cases are few and separated widely in time and place that they show no or little connection with each other, nor a reasonable common source of infection e.g: polio, meningitis, tetanus.

A sporadic disease could be the starting point of an epidemic when the conditions are favourable for its spread.

**Incubation period:**

The time interval between invasion by an infectious agent and the appearance of first sign or symptom of the disease. It is very useful in:

- Retrospective tracing of source of infection
- Following up contacts to determine whether they are infected or not.

**Latent period:**

The period between exposure and the onset of infectiousness (this may be shorter or longer than the incubation period)

**Period of communicability (infectivity period):**

It is the period of time during which an infected host is capable of transmitting the infective agent.

**Reservoir:**

Any person, animals, plant, arthropod, soil or inanimate matter in which an infectious agent normally lives and multiplies and serves as a source of infection to others. It is the natural habitat of the infectious agent.

**Susceptible:**

A person or animal having no resistance against pathogenic agents to prevent disease.

**Carrier:**

An infected person who harbours a specific infectious agent in the absence of clinical features. It acts as a source of infection to others. Carriers may be incubatory, convalescent or chronic.

Three elements have to occur from a carrier state:

- 1- The presence of the disease agent in the body.
- 2- The absence of recognizable symptoms and signs of disease.
- 3- The shedding of disease agent in the discharge or excretions.

**Mode of transmission:**

The way disease agents are transmitted from the source of infection to new hosts.

The common modes of transmission are:

**a. Direct transmission:**

- Direct contact (hand shaking, kissing) ,
- droplet infection ( coughing, sneezing),
- Inoculation into skin as in sexual contact.
- Contact with soil (ascariasis)
- Transplacental or vertical transmission.

**b. Indirect transmission:**

- **Vehicle-borne transmission:** infectious agent is transmitted within contaminated inanimate materials or objects. Fomite: toys, handkerchiefs, soiled cloths, bedding, food service utensils and surgical instruments. Also

considered vehicles are water, milk, food, and biological products such as blood, serum, plasma, organs and tissues.

- **Vector - borne transmission:** disease transmission by a living organism, such as a mosquito, fly, or tick. The transmission may be:
  - 1- Mechanical: via the contaminated mouth parts or feet of the vector (on insect bodies) e.g: transmission of trachoma by flies, transmission of organisms that cause dysentery, and typhoid fever by flies.
  - 2- Biological: involving multiplication or developmental changes of the agent in the vector before transmission occurs, e.g: transmission of malaria by mosquitoes.
- **Air -borne transmission:** transmission of microbial aerosols to a suitable port of entry, usually the respiratory tract. Microbial aerosols are suspensions of dust or droplet nuclei made up wholly or in part by organisms may be suspended and infective for long period of time. Examples of air -borne diseases include tuberculosis, influenza ....

## **The general strategies to prevent and control communicable diseases:**

1. The elimination of source of infection by effective detection and treatment of cases and carriers or dealing with any other source.
2. Interruption of transmission pathways by, for example, the destruction of intermediate hosts, destruction of breeding sites and purification of water.
3. Improvement of host resistance or immunity against infection as for example by immunization.
4. Combination of all methods.

Occasionally, disease control measures may include:

**Isolation:** Is separation, for the period of communicability, of infected persons or animals from others so as to prevent the direct or indirect transmission of the communicable agent to a susceptible person (host).

**Quarantine:** Is limitation of the freedom of movement of well persons or animals that have been exposed to a communicable disease until the incubation period has passed.

**Notification:** A notifiable disease is a disease that must be reported to the local health authority so that prompt control and preventive action may be undertaken if necessary e.g: diphtheria, malaria, poliomyelitis and whooping cough.

**Chemoprophylaxis:**

The administration of a chemical including antibiotics to prevent the development of an infection or the progression of infection to active infectious disease. Examples are chloroquine against malaria, INH against tuberculosis.

**Chemotherapy:**

The use of a chemical to cure clinically recognizable disease or to limit its further progress.

# **ECOLOGY OF HEALTH**

**Ecology of health is the study of all factors in the environment that affects the health of man.** Any given state of health is a product of interaction (visible and invisible) of enormous number of factors. These are conventionally grouped into:

## **Factors related to host**

Host is the person in whom the disease agent enters, multiplies and produce the disease state.

The attributes that make the host susceptible to disease: age, sex, occupation, education, genetics, immunological factors, behaviors, habits and other personal characteristics.

Smoking for example (as a behavior) is an important cause of lung cancer and ischaemic heart diseases. Many diseases are genetically determined such as sickle cell disease and thalassaemia.

**Factors related to disease agent** like, type of agent (bacteria, viruses, parasites, fungi etc.)

Properties:

infectivity, pathogenicity, virulence, dose and duration of exposure, and susceptibility to damaging effects of the environment such as heat and light.

Infectivity: ability of the agent to enter and multiply in a host. It depends on the dose of the agent.

Pathogenicity: ability of the agent to produce illness in the host.

Virulence: is the ability of an agent to produce sever clinical manifestation including death.

Susceptibility: ability of the agent to survive in the host (intrinsic) or in the environment (extrinsic).

## **Factors related to environment**

The different types of environment that result in causation of disease: physical, chemical, biological and social dimensions.

- **Physical environment** refers to the non living part of the environment : air, water, soil, light and climatic factors such as

temperature and humidity.

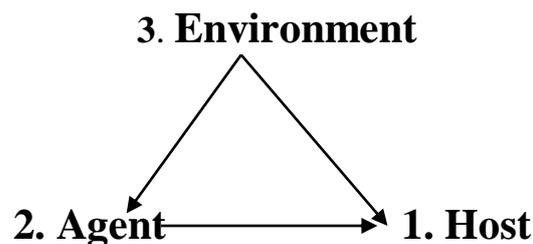
- **Biological environment** means all the living things in the environment : infectious disease agents, reservoirs of infection, vectors, plants, and animals

- **Social environment**

is that part entirely made by human, such as poverty, illiteracy, unemployment, traditional customs, and the culture including beliefs and attitudes.

Environment:

1. assists the *survival* of disease agent
2. facilitates the *transmission* of disease agent from the source to a new host and
3. affects the *immunity* of the host. See the diagram below:



Example: Typhoid fever

The causative agent is known to be a bacteria (*salmonella typhi*). However, the occurrence of an outbreak is determined by various environmental factors:

Water supply, sewage disposal, presence of typhoid carriers, personal habits (cleanliness), use of raw water, attitude to use of medical services.

From this ecological approach, we can improve the health of the people through action on the environment.

Thus, typhoid control should go beyond the treatment of the individual patient to include: protection of water supply, safe disposal of waste, improvement of personal hygiene, health education, and immunization of susceptible groups.

# **THE CONCEPT OF PREVENTIVE MEDICINE AND PREVENTION**

## **Preventive Medicine**

It is the science that promotes, protects, restores and rehabilitates the health of people through the effective use of scientific knowledge and skills.

Preventive medicine can be applied:

- a. At individual level like hand washing
- b. At population or group level like immunization

## **Prevention**

Is to make the occurrence of something like disease, accident, which is anticipated, impossible. This can be achieved at four levels (levels of prevention):

**Primordial prevention:** It is basically primary prevention made early in life (childhood). It involves prevention of emergence of risk factors in a population where they have not yet appeared.

The main intervention is through individual and mass education to discourage harmful lifestyles.

It can be started early in childhood by discouraging children from adopting unhealthy lifestyles like smoking, sedentary habits, high fat diet, etc ...thus preventing risk factors from emerging in the environment.

This is applicable more in cases of chronic diseases as hypertension, heart diseases and obesity. This main intervention is applied through individual and mass (population) education to discourage harmful lifestyles.

**Primary prevention:** All measures that are applicable before the onset of disease. Target population: healthy individuals.

It is applied through: health promotion and specific protection.

Health promotion involves health education aiming at raising the standards of living through environmental modification.

EX: good housing, regular exercise, personal hygiene, providing sanitary latrines, control of vectors, improving nutrition, and nutritional education.

Specific protection involves various measures such as:

immunization, use of safety belts, food fortification, nutritional supplements (vitamins), and chemoprophylaxis.

## **Secondary prevention**

This is applied after the onset of disease has already occurred.

Target population: sick individuals.

Actions are taken to arrest the disease at an early stage.

Measures adopted are:

- Early detection (diagnosis)
- Prompt treatment

Early detection of disease may be achieved through screening of high risk groups, contact tracing, periodical medical examination, pre-employment examination and surveillance.

Objectives of secondary prevention:

Secondary prevention may reduce the length of illness, the length of infectiousness, the risk of complications, limit disability and the economic losses by the individuals, their families and the society at large.

## **Tertiary prevention**

*Target population:* sick patients. Two measures adopted here: limitation of disability and rehabilitation.

Rehabilitation may be physical, educational, social or vocational.

Objectives of tertiary prevention:

- Reduce and limit damage from disease
- Restore function

Some examples of tertiary prevention:

- Provision of therapy by physiotherapist, speech therapist,..
- Provision of technical aids like prosthesis
- Provision of social or vocational guidance and training
- Training for blind and deaf.

**College of Medicine/Al-Anbar University**  
**Foundation of Medicine**  
**First Class**  
**First Trimester Examination**

Q1- Define the followings:

1. Reservoir
2. Social environment
3. Infection
4. Virulence
5. Incubatory carrier

Q2- What level of prevention are the followings:

1. Regular exercise
2. Contact tracing
3. Food fortification
4. Discouraging smoking
5. Physiotherapy

Q3- What is the difference between chemotherapy and chemoprophylaxis.

Q4- State the main modes of transmission of infection.

Q5- How does the environment affect the health of man?

Q6- What are the attributes of optimal health?

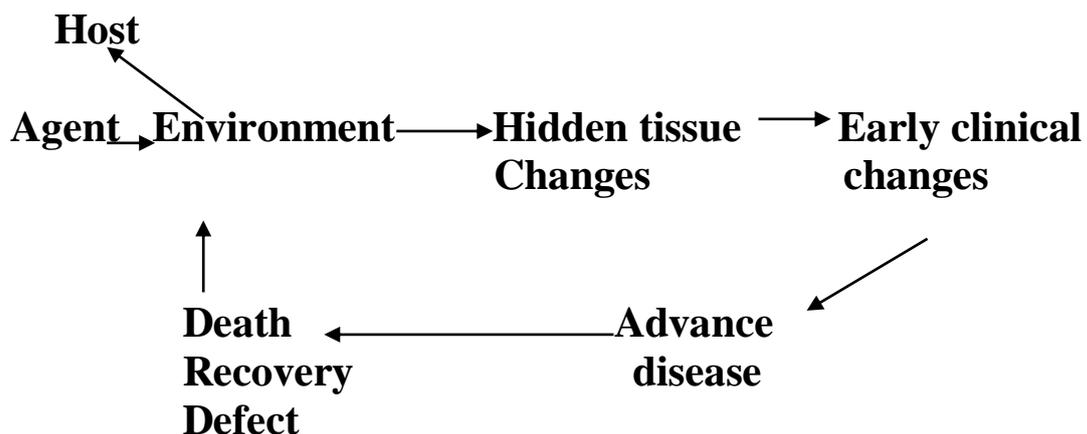
## L8

### THE NATURAL HISTORY OF DISEASE

The natural history of disease refers to all the stages of disease from start till termination. It consist of two main phases:

**a. Pre-pathogenic phase:** The period of interaction of potential host, disease agent and environmental factors. During this phase primary prevention may be applied successfully.

**b. Pathogenic phase:** The course of disease in man from the early changes in body structure and function until termination. The termination may take the form of complete recovery, partial recovery , defected person or death. During this phase, secondary and tertiary prevention may be successfully applied.



## MEASUREMENT OF POPULATION HEALTH

For measuring the health of population, three types of measurement indicators are use:

**a. Indicators of population health status** which measure epidemiological parameters reflecting the health status of people from **fertility, morbidity and mortality** point of view. Examples are:

For fertility : crude birth rate.

**Crude birth rate = Number of total births/ total population X 1000**

For morbidity: incidence rate and prevalence rate.

**Incidence rate = number of new cases of disease/ total population X 1000**

**Prevalence rate = number of new and old cases of disease/ total population X 1000**

For mortality: Crude death rate, infant mortality rate.

**Crude death rate = total number of deaths/ total population X 1000**

**Infant mortality rate = number of infant (below 1 year) deaths/ number of live births X 1000**

**b. Indicators of environmental health.** Examples are the percentage of people with access to purified drinking water, the percentage of people with access to sanitary disposal of wastes.

**c. Indicators of health services supply.** Examples are population: doctor ratio, Population: bed ratio

## L9

# ENVIRONMENT AND HEALTH

**Environment:** The total elements, factors or conditions in the surrounding of man that can affect the human health and well being. These might be physical (heat, radiation), chemical (pesticides, industrial wastes), biological (viruses, bacteria) or sociocultural (smoking, drug abuse, social relationships).

**Environmental Health:** All programmes that are concerned with the creation and maintenance of good environmental conditions to promote health and prevent disease particularly communicable, malignant and occupational diseases.

### **Three major risks in the environment are related to health**

Air pollution

Water pollution

Soil pollution

## **Air pollution**

### **Definition:**

A condition where the atmosphere contains excessive concentrations of foreign matter, which adversely affects health and well-being of the individual and causes damage to property, animals and plants.

### **Sources of air pollution:**

#### **First: Natural sources**

These result from natural events like volcanoes eruptions, forest burns and storms. Examples are

Sulphur dioxide, Nitrogen oxides, Ozone, dust, salts, pollens, biological agents and radioactive matters.

#### **Second: Man-made sources**

which include

- a. Incomplete combustion of different domestic fuels (liquid, solid or gaseous)
- b. Industrial activities such as chemical plants, refineries and phosphate fertilizer plants.
- c. Community activities and personal habits like smoking.
- d. Sewage systems
- e. Vehicle sources of air pollution: Lead.

### **Main chemical air pollutants:**

In Western countries 5 major pollutants are responsible for 98% of air pollution:

- 1- Carbon monoxide (52%)
- 2-Sulfur oxides (18%)
- 3- Hydrocarbons& other volatile organic compounds (12%)
- 4-Particulate matter like dust, soot, metal particles (10%)
- 5- Nitrogen oxides (6%)

Other chemical pollutants include:

\*Ozone (secondary pollutant from the interaction of hydrocarbons and nitrogen oxides in sunlight)

\*Lead

### **Effects of air pollution:**

The effect of air pollutants on health depends on:

- a. Toxicity of the pollutant.
- b. Concentration of pollutant.
- c. Duration of exposure.
- d. Individual susceptibility.

### **Effect on health:**

a. Most harmful effects of air pollution known are associated with irritant properties and most of the symptoms are related to the respiratory system and eyes.

b. Acute episodes of illness and death results occasionally from exposure to severe air pollution associated with unusual weather conditions when a mixture of smoke and fog is formed and very toxic. It is called (smog).

d. Air pollution may contribute to or aggravate the symptoms and may be a factor in mortality of persons with preexisting chronic respiratory disease, cancer and cardiovascular diseases.

e. Poisoning as in case of CO accumulation in closed space.

- f. Tuberculosis. *Mycobacterium tuberculosis* can remain suspended in air for hours and can survive for long period in dark, dusty places.
- g. Unpleasant odours---annoyance.

### **Economic effects**

On animals----decrease milk production.

On plants----- decrease growth of plants and burning of plants.

On building—damage and corrosion.

Sickness absence, road accidents, and cost of maintenance.

### **Measures of prevention:**

- \* Environmental modification.
- \* Personal protection.
- \* Environmental monitoring.
- \* Worker education.
- \* Medical intervention.
- \* Government regulation. Example is the establishment of industries away from residential areas the so called "zoning".
- \* Exposure standards. These may be attained by:
  - Avoidance of production of industrial wastes by change in plant processes.
  - Suppression or removal of waste materials at the source of production by absorption, filtering, collection, precipitation or burning.
  - Control of gases produced by automobiles.

# Water pollution

## Safe water is required for:

- a. Domestic uses (drinking, hygiene, sanitation, temperature regulation and gardening)
- b. Industrial and agricultural purposes

## Quality of water is determined by:

- Turbidity.
- Chemical quality.
- Bacteriological quality.
- Level of chlorination.

**Water pollution:** polluted water is that which is altered in composition or condition so that it becomes less suitable for any or all its natural uses.

## Sources of water pollution:

1. Accidental leakage of sewage into drinking water.
2. Uncontrolled disposal of sewage and other wastes.
3. Industrial, agricultural and irrigation drainage.
4. Spreading of fertilizers.
5. Insecticides and pesticides.
6. Dumping of certain wastes at sea.
7. Spillage of liquids (oil) from ships.

## Water related diseases:

**A. Water related infections:** These are infections, which are related in their transmission to water. They include:

1. **Water borne infections** such as cholera, typhoid fever, hepatitis A, ascariasis, diarrhoeas and dysenteries.

Human beings and animals can act as hosts to the bacterial, viral, or protozoal organisms that cause these diseases. Millions of people have

little access to sanitary waste disposal or to clean water for personal hygiene. Over 1.2 billion people are at risk because they lack access to safe freshwater.

Where proper sanitation facilities are lacking, water-borne diseases can spread rapidly. Untreated excreta carrying disease organisms reach to freshwater sources, contaminating drinking water and food. The extent to which disease organisms occur in specific freshwater sources depends on the amount of human and animal excreta that they contain.

Prevention by improving public sanitation and providing a clean water supply are the two steps needed to prevent most water-borne diseases and deaths

2. **Water washed or water shortage diseases** including skin infections (impetigo) and eye infections (bacterial, trachoma). These infections are transmitted when too little fresh water is available for washing hands. They can be effectively controlled with better hygiene, for which adequate freshwater is necessary.
  
3. **Water-based transmission diseases.** These include helminthic infections which have aquatic intermediate host, example: schistosomiasis . They are caused by aquatic organisms that spend part of their life cycle in the water and another part as parasites of animals.
  
4. **Water-related vector borne diseases** such as malaria and yellow fever. They are transmitted by vectors—insects or other animals capable of transmitting an infection, such as mosquitoes and sand flies—that breed and live in or near water.

**B. Water chemistry related diseases.** These are diseases associated with either excess or shortage of chemical constituents of water. . Some of the examples are related to teeth, blood and cardiovascular diseases.

### Question:

1. How can we achieve prevention? Can you identify and list preventive measures provided at primary health centres in Iraq?
2. How could the environmental factors affect the occurrence of tuberculosis, typhoid fever and schistosomiasis?
3. Do you feel healthy these days? What are the factors that make you healthy?
4. Does a specialist surgeon or a pediatrician in a big hospital practice preventive medicine? Explain

## التاريخ المعاصر للخدمات الصحية في العراق

1. كان العراق مهد الحضارات القديمة في العالم كالحضارة السومرية والاكديّة والبابليّة والآشورية وقد حفظ التاريخ شيئا من بواجر الطب في هذه الحضارة .
2. وفي العصور الإسلاميّة الأولى ، تطور الطب والخدمات الطبيّة كثيرا وما زال التاريخ يحفظ الدور الكبير للكثير من العلماء والأطباء العرب والمسلمين في هذا المجال.
3. ولثلاثة قرون تقريبا ( 1638 – 1917 ) كان العراق جزءا من الدولة العثمانيّة .
4. حصل على الاستقلال وأصبح كدولة العراق الحديث عام 1921 حيث بدأت التنظيمات الإداريّة المختلفة تتشكل وتتطور الى يومنا هذا
5. ولكي نفهم قيمة المستوى الحالي للخدمات الصحيّة لا بد من استعراض التطورات التي حصلت منذ بدء الدولة العراقيّة الحديثة ويمكن ذكر بعض من المحطات المهمّة في تطور المنظومة الصحيّة

عام 1905 أنشئت أول إدارة للخدمات الصحيّة في بغداد تتكون من ثلاثة أشخاص وقد بقيت كذلك حتى الحرب العالميّة الأولى .

عام 1918 تم توسيع الإدارة الصحيّة الى مديرية عامّة للصحة في بغداد

عام 1921 أنشئت إدارات للصحة في بعض المدن الرئيسيّة الأخرى وتم تحديد ميزانيّة للخدمات الصحيّة لأول مرة في ميزانيّة الدولة كذلك تم تطوير المديرية العامّة للصحة الى مستوى وزارة .

عام 1922 ألغيت الوزارة الجديدة وتم ربط الخدمات الصحيّة بوزارة الداخليّة تحت اسم المديرية العامّة للصحة.

عام 1939 تم ربط المديرية العامّة للصحة الى وزارة العمل والشؤون الاجتماعيّة باعتبارها مؤسسة خدميّة وبقيت كذلك الى عام 1952.

عام 1952 تأسست وزارة الصحة العراقية كمؤسسة مستقلة تتولى تخطيط وتنظيم وتنفيذ الخدمات والبرامج الصحية المختلفة .  
عام 1954 تأسست أول عيادة رعاية أمومة وطفولة رسمية في بغداد .

عام 1963 تم تشريع قانون الصحة الريفية رقم 131 وقد حدد هذا القانون مؤسسة خاصة ضمن وزارة الصحة تعنى بالخدمات الصحية الريفية التي كانت تكاد معدومة قبل ذلك التاريخ.

عام 1975 تم إنشاء المؤسسة العامة للخدمات الريفية والتأمين الصحي كبديل عن مؤسسة الخدمات الريفية ويعتبر إنشاؤها نقطة تحول تاريخية كبيرة في مستوى الخدمات الصحية في القطر حيث تم تغطية معظم المناطق بالمراكز الصحية التي كانت على ثلاثة مستويات :

مركز صحي فرعي

مركز صحي رئيسي

مركز صحي تجريبي

وتقدم خدمات صحية متنوعة وقائية وعلاجية وإرشادية للمواطنين ضمن حدود معينة محيطة بتلك المراكز .

عام 1981 تم إصدار قانون الصحة العامة ( قانون رقم 89 لعام 1981 ) وتم بموجبه تحديد الخدمات الصحية الأساسية التي تقدمها المراكز الصحية وتشمل :

- خدمات رعاية الأمومة والطفولة .

- خدمات الصحة المدرسية .

- التغذية الصحية .

- مكافحة الأمراض الانتقالية والمستوطنة .

- الصحة العينية والسمعية .

- صحة الأسنان .

- الخدمات العلاجية .

- الإرشاد والتوعية الصحية .

- خدمات الإصحاح البيئي .

- توثيق الإحصاءات الصحية والحياتية .

عام 1983 تم إصدار قانون وزارة الصحة حيث تضمن تعديلا كبيرا في هيكل ووظائف الوزارة لتواكب التطور الكبير في مهامها ووظائفها.

عام 1997 تم تطبيق نظام التمثيل الذاتي

عام 2003 تم إيقاف العمل بنظام التمويل الذاتي

إضافة الى ذلك فان العراق تبنى إستراتيجية الرعاية الصحية الأولية منذ المؤتمر

العالمي في الماتا عام 1978 .

من أهم متطلبات هذه الإستراتيجية

توفير الخدمات الصحية الأساسية لجميع المواطنين تحقيقا لشعار " الصحة للجميع " .

ويتكون الهيكل الأساسي للمنظومة الصحية في العراق في الوقت الحاضر من:

وزارة الصحة	مستوى مركزي
دوائر الصحة في المحافظات	مستوى وسطي
المؤسسات الصحية المختلفة	مستوى طرفي
(مستشفيات / مراكز صحية .. الخ)	

المستوى الطرفي الذي يتولى تقديم الخدمات الصحية يشمل في الوقت الحاضر

- 1- الوحدات الصحية المتنقلة .
- 2- مراكز الرعاية الصحية الأولية .
- 3- المستشفيات العامة .
- 4- المستشفيات المتخصصة .
- 5- العيادات الطبية الشعبية .
- 6- المؤسسات الصحية الخاصة .
- 7- المجمعات الطبية التعاونية .

**Quiz / first class**  
**Foundation of Medicine**  
**25/1/2010**

**Q1- Apply the levels of prevention on the different stages of the natural history of disease.**

**Q2- Write three effects of air pollution on human health.**

**Q3- What are the indicators of population health status. Give examples.**

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