**CHS 232 Lecture (2)**

**Levels of Prevention of diseases**

**Levels of prevention:**

It has become customary to define prevention in terms of the following levels:

1. Primordial prevention

* 1. Primary prevention.
  2. Secondary prevention.
  3. Tertiary prevention.

***1) Primordial prevention***

This level of prevention was identified as a result of increasing knowledge about the epidemiology of cardiovascular diseases. It is known that **coronary heart disease** occurs on a large scale only if the basic underlying cause is present, i.e. a diet high in **saturated animal fat.** Where this cause was largely absent – as in China and Japan – coronary heart disease remained a rare cause of mortality and morbidity, despite the high frequencies of other important risk factors such as cigarette smoking and high blood pressure.

**The aim of primordial prevention is to avoid the emergence of risk factors of disease**. All countries need to avoid the spread of unhealthy lifestyles and consumption patterns.

**Examples**:

1- **Increase taxes on cigarettes to decrease rate of smoking**:

There is good evidence that tobacco consumption can be reduced by taxation and increased prices (Figure 6.5).



2- **City planning that separates industrial from residential areas to prevent air pollution**

***2- Primary prevention.***

Actions taken prior to the onset of the disease which **control** the causation and the risk factors thus limit the incidence or prevent the possibility of occurrence of a disease. Example of primary prevention:

1. Health education.
2. Environmental sanitation.
3. Nutritional interventions.
4. Specific protection.
   * Immunization.
   * Chemoprophylaxis.
   * Protection from carcinogens and allergens.
   * Protection against accidents
   * Protection against occupational hazards.

***2- Secondary prevention.***

**Actions hinder the progress of a disease at its early stage and prevent complications.** The specific interventions are early diagnosis (e.g. Screening tests and case finding programs) and adequate treatment before irreversible pathological changes have taken place. It may also, protect others in the community from acquiring the infection and thus provide at once secondary prevention for the infected individuals and primary prevention for their potential contacts. Secondary prevention is largely the domain of clinical medicine. The health programs initiated by governments are usually at the level of secondary prevention. **Early diagnosis** and treatment though not as effective and economical as primary prevention, it may be critically important in reducing the high morbidity and mortality in certain diseases such as essential hypertension, cancer cervix and breast cancer.

An example of secondary prevention is mass treatment. A mass treatment is used in the control of certain diseases, e.g. *Trachoma, malaria and bilharziasis*.The rationale for a mass treatment program is the existence of at least four to five cases of latent (incubating) infection for each clinical case of active disease in the community. Patients with a latent infection may develop disease at any time. In such cases, mass treatment is a critical factor in the interruption of disease transmission.

***3- Tertiary prevention:***

Actions taken when the disease process has advanced beyond its early stages i.e. intervention in late pathogenesis phase. The aim of tertiary prevention is :

* + To limit impairments and disabilities.
  + To decrease suffering.
  + To promote the patient's adjustment to rehabilitation.
* Rehabilitation:- It is a measure to train disable individuals to reach the highest level of functional ability by using combined coordinated medical, social and educational measures.

Examples of rehabilitation:-

1. Special schools for blind pupils.
2. Provision of aids for crippled.
3. Reconstructive surgery for leprotics.
4. Modification of life for tuberculous or cardiac patients.

**Assignment**

**Write the scientific term for each of the following sentences:**

1- Actions taken prior to the onset of the disease which control the causation and the risk factors thus limit the incidence or prevent the possibility of occurrence of a disease. (………………………………….)

2- Actions hinder the progress of a disease at its early stage and prevent complications (……………………………………)

3- A measure to train disable individuals to reach the highest level of functional ability (……………………………………)

**Choose the correct answer:**

|  |  |
| --- | --- |
| 1- Pap smear to detect early cervical cancer is considered:   * A) Primary prevention. * B) Primordial prevention. * C) Secondary prevention * D) Tertiary prevention |  |
| 2- Examples of rehabilitation include the followings **except** :   * A) Special schools for blind pupils . * B) Reconstructive surgery for leprotics . * C) physiotherapy for patients with osteoarthritis * D) None of the above |  |
| 3- Examples of primary prevention include the followings **except** :   * A) wearing a safety cap when driving a motor cycle * B) Immunization against swine flu * C) mass treatment of trachoma * D) None of the above |  |
| 4- Mass treatment of malaria is considered:   * A) Primary prevention. * B) Primordial prevention. * C) Secondary prevention * D) Tertiary prevention |  |