COUSRE TITLE: ENVIRONMENT POLLUTION (PGD 701)

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QUESTION:

In the light of environment health, establish the relationship between health and environment.

ANSWER

Health is the level of functional or metabolic efficiency of a living being. In humans, it is the general condition of a person's mind, body and spirit, usually meaning to be free from illness, injury or pain. The World Health Organization (WHO) has defined health in its broader sense in 1946 as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity."

A disease is an abnormal condition affecting the body of an organism. It may be caused by external factors, such as infectious disease, or it may be caused by internal dysfunctions, such as autoimmune diseases. In humans, "disease" is often used more broadly to refer to any condition that causes pain, dysfunction, distress, social problems, or death to the person afflicted, or similar problems for those in contact with the person.

Human health is influenced by many factors like nutritional, biological, chemical or psychological. It is quite true that environment has a direct impact on those living in it and many diseases are the outcome of man's maladjustment to his environment.

The factors, which affect human health and cause disease, can be dividing into two categories:

(1) Intrinsic factors

(2) Extrinsic factors

The factors such as malfunctioning of the body parts, hormonal imbalances, malfunctioning of immune system and genetic disorders, which exist within the human body, are called Intrinsic Factors. The disease caused by intrinsic factors is called organic diseases or metabolic diseases.

Some examples of diseases caused by extrinsic factors are:

Heart attack Kidney failure, Cataract, Diabetes etc. The disease caused by intrinsic factors can be cured by proper medical treatment. The factors, such as malnutrition, disease causing microorganisms, environmental pollutants use of tobacco, alcohol and narcotics, which exist outside the human body, are called Extrinsic Factors.

Some examples of disease caused by extrinsic factors are Kwashiorkor, Goiter, Malaria, Cholera, Tetanus etc. The diseases caused by extrinsic factors can be cured by providing wholesome food, by providing clean environment, by social remedies which encourage good habits.

Many chemicals applied to skin, inhaled or taken by mouth are also known to cause cancer. These chemicals, which can cause cancer, are known as carcinogenic. Carcinogenic agents in foods may be natural substances or they can be chemicals (food additives) which are deliberately added to food as flavoring agent, as colouring agent, as sweetener as a preservative. Cancerous growths or tumors can be treated only at early stages. Cancerous growths in advanced stages often result in death.

There are three types of health hazards:

Physical hazards

Chemical hazards

Biological hazards

Physical Hazards:

Radioactive and UV radiations, Global warming, Chlorofluorocarbons, Noise etc.

2. Chemical Hazards:

Combustion of Fossil fuels, industrial effluence, pesticides, heavy metals.

Biological Hazards:

Bacteria, Viruses, Parasites.

Infectious Organisms:

Infectious diseases, also known as transmissible diseases or communicable diseases comprise clinically evident illness resulting from the infection, presence and growth of pathogenic biological agents in an individual host organism. Infectious pathogens include some viruses, bacteria, fungi, protozoa, multicellular parasites, and aberrant proteins known as prions.

These pathogens are the cause of disease epidemics, in the sense that without the pathogen, no infectious epidemic occurs. Transmission of pathogen can occur in various ways including physical contact, contaminated food, body fluids, objects, airborne inhalation, or through vector organisms.

Infectious organisms can also cause respiratory diseases (pneumonia, tuberculosis, influenza etc.) and gastrointestinal diseases (diarrhea, dysentery, cholera etc.)

Malnutrition:

The term malnutrition refers to an unhealthful intake of dietary nutrients. Malnutrition may arise with inadequate or overabundant food intake, an imbalance of dietary nutrients or an inability to digest, absorb or utilize the food you eat.

Because all organ systems in your body require the building blocks and energy food provides, malnutrition can adversely affect your health in ways that range from mild to potentially life threatening. Eating a nutritious, well-balanced diet is one of the most important factors in achieving and maintaining your good health.

Increased Risk of Disease Malnutrition increases your risk of developing medical conditions associated with inadequate or excessive consumption of specific nutrients. For example, deficiencies of vitamin C, B_{12}, B_6 or iron can lead to a low red blood cell count, or anemia.
Excess consumption of cholesterol and saturated fats increases your risk of developing atherosclerosis, or fatty blockages in your arteries. Increased risk of infections may occur if your diet lacks adequate amounts of protein, zinc or vitamin C, Calcium and vitamin D deficiencies increase your risk of osteoporosis and bone fractures. Malnutrition during infancy and early childhood may increase your risk of developing chronic diseases, including diabetes, asthma, allergies and heart disease.

Food Adulteration:

Adulteration of food is defined as the addition or subtraction of any substance to or from food, so that the natural composition and quality of the original food substance is affected. It is difficult for the consumer to detect the extent of adulteration. Adulteration of foods can either be intentional, unintentional or natural.

Adulteration of food causes several health problems in humans. Some of the health hazards include stomach ache, body ache, anemia, abortion, paralysis, and increase in the incidence of tumors, pathological lesions in vital organs, abnormalities of skin and eyes. Hence food adulteration should be given great importance due to its effect in the health significance of the public.

Epidemic dropsy is a form of edema of extremities due to intoxication with Argemone mexicana (Mexican prickly poppy). Epidemic dropsy is a clinical state resulting from use of edible oils adulterated with Argemone mexicana seed oil. Epidemic dropsy occurs as an epidemic in places where use of mustard oil, (from the seeds of Brassica juncea commonly known as Indian mustard) as cooking medium is common.

Removal of the adulterated oil and symptomatic treatment of congestive cardiac failure and respiratory symptoms, along with administration of antioxidants and multivitamins, remains the mainstay of treatment. Selective cultivation of yellow mustard, strict enforcement of the Indian Food Adulteration Act, and exemplary punishment to unscrupulous traders are the main preventive measures.

Radiation:

High doses of radiation can be harmful or even fatal. The damage caused by exposure to radiation is determined by the type of radiation, the duration of exposure, and the part of the body that is exposed. It is important to note that an average of one in four people develops some form of cancer.

Although a dose of just 25 rems causes some detectable changes in blood, doses to near 100 rems usually have no immediate harmful effects.

Doses above 100 rems cause the first signs of radiation sickness including nausea, vomiting, headache and some loss of white blood cells. Doses of 300 rems or more can cause temporary hair loss, but also more significant internal harm, including damage to nerve cells and the cells that line the digestive tract.

Severe loss of white blood cells, which are the body’s main defense against infection, makes radiation victims highly vulnerable to disease. Radiation also reduces production of blood platelets, which aid blood clotting, so victims of radiation sickness are also vulnerable to hemorrhaging. Half of all people exposed to 450 rems die, and doses of 800 rems or more are always fatal.

Besides the symptoms mentioned above, these people also suffer from fever and diarrhea. As of yet, there is no effective treatment —so death occurs within two to fourteen days. In time, for survivors, diseases such as leukemia (cancer of the blood), lung cancer, thyroid cancer, breast cancer, and cancers of other organs can appear due to the radiation received.

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