

GENERAL SCIENCE

Date 7-12-23

Q:- What are the factors responsible for Environmental Pollution?

FACTORS RESPONSIBLE FOR ENVIRONMENTAL POLLUTION:-

Following are the factors responsible for environmental Pollution:-

BURNING OF FOSSIL FUELS:-

When fossil fuels are burned they release nitrogen oxide into the atmosphere, which contribute to the formation smog and acid rain. The most common nitrogen-related compounds emitted into the air by human activities are collectively referred to as Nitrogen Oxides.

Major Sources of nitrogen Oxide emissions include.

1. Cars and trucks.
2. Coal-fired powerplants
3. large Industrial operations.
4. Ships and airplanes.

RAPID INDUSTRIALIZATION:-

The Industrial Revolution impacted the environment. The world saw a major increase in Population which, along with an increase in living standards, led to the depletion of natural resources. The use of chemicals and fuel in factories resulted in increase air and water Pollution and an increased use of fossil fuels.

• MASSIVE DEFORESTRATION:-

Forest/Plantation are considered as Carbon Sinks (Absorbs CO_2). As Per Global Watch, more than 10 million hectares have been deforested in the world due to the humans over the past 4 years which resulted into decline in Carbon Sinks and sources of emissions of CO_2 increased and create imbalance in the Carbon level of atmosphere.

According to NOAA (National Oceanic and Atmospheric Administration) currently $\text{CO}_2 = 424 \text{ PPM}$ (Parts Per million)

• ERRUPTION OF WILDFIRES:-

Wildfire smoke is a mixture of hazardous air pollutants such as $\text{PM}_{2.5}$, NO_2 , Ozone, aromatic hydrocarbons or lead. In addition to contaminating the air with toxic pollutants, wildfires also simultaneously impact the climate by releasing large quantities of carbon dioxide and other greenhouse gases into the air.

• POPULATION EXPLOSION:-

The rapid and dramatic rise in population of an area is termed as population explosion. Over-population can lead to dangerous impacts of pollution, depleted resources, habitat loss, etc. According to US (Census Bureau) currently the population is more than 8 billion. Increased in the number of people results into increased in production, industrialization, urbanization, transport, solid waste which are responsible for the addition of pollutants into the atmosphere.

• URBANIZATION:-

Urbanization refers to general increase in Population and the amount of an Industrial Settlement. It includes increase in the number and extent of cities. It symbolizes the movement of people from rural to Urban areas. According to UN (United Nations) almost 60% Population is Urban which was 54% in 2014. Urbanization Processes roads, bridges, flyovers, house-constructing which adds Pollutants to the air.

• GENERATION OF SOLID WASTE:-

The collecting, treating and disposing of solid material that is discarded because of ~~the~~ it has served its purpose and no longer useful. Organic waste such as N_2O , CH_4 and CO_2 are produced by industries, mining, municipal and domestic institutions. According to (UNEP) (United Nations Environmental Program) more than 350 millions tons of plastics are produced globally and Pakistan produces 15 million tons of plastic as a waste production.

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Date: 12-12-23.

POLIO:-

Polio is a life-threatening disease caused by a virus. (Poliovirus). It can spread easily between people who aren't vaccinated. In its more severe form, it can attack your spinal cord and brain and cause 'Paralysis'.

SYMPTOMS:-

Most people who catch the Poliovirus don't have symptoms. About 1 in 4 people will have symptoms that look a lot like (Flu) such as;

- 1) Sore throat.
- 2) Feeling tired.
- 3) upset stomach.
- 4) Fever.
- 5) Headache.
- 6) Back or neck pain or stiffness.
- 6) Muscle weakness.
- 7) stomach pain
- 8) Vomiting.

CAUSES:-

You get Polio from a virus. You have to come in contact with the virus to get it. This can be Person-to-Person contact, or through contact with an object that has the virus on it. When you have the virus it lives in your throat and intestines.

The virus gets inside you through your mouth. You might get it by:

- Contact with feces from a person with Polio. This can include putting an object that has feces on it in your mouth. Water or food that is contaminated with infected feces can also spread Polio.
- Breathing in droplets from a cough or sneeze of a person with Polio. This is a less common way to get Polio.

Even if you don't have symptoms, you can pass on Polio to others if it's in your body.

TREATMENT:-

There are no specific (treatment) medications to treat Polio.

Physical or occupational therapy can help with arm or leg weakness caused by Polio and might improve long-term outcomes, especially if implemented early in the course of illness. Some treatments and tools for support include:

- 1) Pain relievers (like ibuprofen).
- 2) A ventilator (a device that helps you breathe).
- 3) Physical therapy that can help keep your muscles working.
- 4) Bed rest and fluids for flu-like symptoms.
- 5) Antispasmodic medications to relax muscles.
- 6) Antibiotics for urinary tract infections.
- 7) A heating pad for muscle aches and spasms.
- 8) Corrective braces.
- 9) Pulmonary rehabilitation to help with lung complications.
- 10) A mobility aid such as cane, wheelchair, or electric scooter.

PREVENTIVE MEASURES:-

The best way to prevent Polio is to get vaccinated. Vaccination is usually done in childhood.

There are 2 types of vaccines:

Vaccine

- 1) Inactivated Polio ^{virus} (IPV) given as an injection in the arm or leg depending on the patient's age.
- 2) Oral Poliovirus Vaccine (OPV). This is an older form of the vaccine that's still used around the world.

Polio vaccines ~~prevent~~ protect children by preparing their bodies to fight the poliovirus. Almost all children (more than 99%) who get all the recommended doses of the inactivated polio vaccine will be protected from polio.

It is also very important to practice good hand hygiene and wash hands often with soap and water. Note that alcohol-based hand sanitizers do not kill poliovirus.

If you are an adult who got vaccinated as a child you should still be immune. The ~~only~~ reasons you might need a booster shot if you:

- 1) Are planning to travel to certain areas of the world where polio still exists.
- 2) Work in a lab where you might come into contact with poliovirus.
- 3) Work with patients who may be exposed to poliovirus.