

# Consequences of Pollution on Human Health

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**ABSTRACT:** Pollution is one of the most distressing problem. Pollution is the introduction of contaminant into an environment that causes instability, disorder, harm or discomfort to the ecosystem i.e. physical systems or living organisms . It is an addition of toxic substances in environment.

Pollution is defined as presence of additional toxic elements or contaminations in air, water and soil around human or a living habitation. The royal commission on Environmental pollution in U.K. in its third report gave the following definition to the term "Pollution". Pollution namely "The introduction of substances by man into the environment or energy liable to cause hazards to human health, harm to living resources and ecological systems, damage to structure or amenity or interference legitimate with use of the environment."

**KEYWORDS:** lung diseases, weakness of memory, mental irritation, pollution.

## 1. INTRODUCTION

### 1.1 Kinds of pollution

Environmental Pollution may broadly be classified into

- I) Natural pollution
- II) Man Made Pollution

i) Natural Pollution:-Environment is polluted often by natural phenomenon such as earthquakes, floods, drought, cyclones etc.

ii) Man Made Pollution: - Human activities.

### Types of pollution

- i) Air ii) Water iii) Land iv) Noise

i) Air pollution is significant risk factor for a number of pollution related diseases. Principally affect the respiratory system.

ii) Water pollution is leading worldwide cause of death and diseases, infectious diseases can be spread through contaminated water.

iii) Land pollution is the destruction and contamination of the land through the direct and indirect actions of living organisms.

iv) Noise pollution can cause health problems for people and wildlife. From traffic noise to rock concerts, loud sounds can cause hearing loss, stress, and high blood pressure.

### 1.1 Causes of Air Pollution

Air pollution is a type of environmental pollution that affects the air and usually caused by smoke or other harmful gases mainly oxides of carbon, sulphured and nitrogen. The air pollution is the contamination of air due to presence or introduction of a substance which has a poisonous effect. The causes of air pollution are poisonous gas, emission from vehicles, combustion of fossil fuels, pollution from air conditioners, dust and dirt, household pollution etc.

Air pollution is considered as a major environmental risk factor in the incidence and progression of some diseases such as asthma, lung cancer, and psychological complications.

### 1.2 Causes of water pollution

Waterborne diseases are caused by pathogenic microorganisms which are most commonly transmitted in fresh water. Infections commonly results during bathing, washing, drinking, cooking, or the consumption infected food. Various forms of waterborne diseases are diarrheal diseases, probably the most prominent examples. Water pollution affects mainly children in developing countries. According to the World Health Organization, such diseases account for an estimated 4.1% of the total Daily global burden of disease, and cause about 1.8 million human deaths annually .Waterborne diseases spread by contaminated drinking water systems with faeces and urine of infected people. The spread of contaminated water is likely to happen where private and public drinking systems get their water such as surface waters creeks, rivers, lakes, and rain. These sources of water may be contaminated by infected people.

### 1.3 Causes of land Pollution

Land pollution is a major problem around the world and is caused by a variety of factors. Some main causes of soil pollution include deforestation and agriculture industry, mining, landfills, illegal dumping of waste as well as urbanization, soil erosion, sewage treatment, nuclear waste, construction activities, industrialization.

### 1.4 Causes of Noise pollution

Noise pollution takes place when there is either an excessive amount of noise or an unpleasant sound that causes a temporary disruption in the natural balance. Various causes of noise pollution are

Industrialization, most of the industries use machines which produce a large amount of noise, poor urban planning, social events such as marriages, parties, pub, disco, and people normally flout rules set by local administration and create nuisance in the areas.

## II. EFFECT OF POLLUTION ON HUMAN HEALTH-

Great hazards are created by environmental pollution. In general, symptoms produced by pollution are headache, irritation, respiratory diseases, weakness etc.

Following are the systems which are affected.

### 2.1 RESPIRATORY SYSTEM:-

Inhalation of toxic gases and fumes, dust, cigarette smoke, strong scents and perfumes, pollen grains and other micro-substances like cotton filter, feathers of birds are mainly responsible for chronic obstructive lung diseases like asthma, chronic bronchitis etc.

These substances get deposited in the small air sacs of lungs and produce difficulty in respiration by narrowing the lumen of the respiratory tract. Peoples working in plastic, cotton mills or having contact with coal dust, silica, asbestos, Beryllium, iron oxide, cotton flax mushroom compact dust, mouldy maple bark, silicate fermentation etc. & chronic cigarette smokers have 8 to 10 times more chances for developing chronic obstructive lung diseases and finally turn to cancer and death.

### 2.2 NERVOUS SYSTEM:-

Acute and constant exposure to a polluted area is mainly by air & noise pollution, develops headache, mental irritation, confusion, sometimes weakness of memory.

### 2.3 DIGESTIVE SYSTEM:-

Ingestion of contaminated food material or drinking contaminated water produces inflammation and infection of the intestine, stomach and produces diarrhoea, vomiting, weak appetite, electrolyte imbalance and general weakness & finally death. Bacterial, viral & protozoan infections and infestation, also metallic & non-metallic substances get contaminated with food & water produce serious diseases.

### 2.4 BLOOD:-

Gases like NO<sub>2</sub>, CO, CO<sub>2</sub>, SO<sub>2</sub> etc. readily combine with haemoglobin present in bloods and form toxic compounds. Constant exposure to these gases cause anaemia, alteration in size, shape and composition of blood cells, plasma & blood-producing system of the body.

### 2.5 SKIN:-

Various types of tumours, either benign or malignant, are produced by exposure to ultra violet rays. Increased black pigmentation, wrinkles, irritation with sometimes eruptions on the skin are caused by a polluted atmosphere and radiation.

### 2.6 AURAL AND HUMAN PSYCHOLOGY:-

Prolonged exposure to noise at a place of work or in the general environment can lead to hearing impairment, also fatigue, raised blood pressure, changes in gastrointestinal motility etc.



**2.7 RADIATION HAZARD:-**

Direct or indirect radiation causes refrangible changes in biological cell. Alpha and beta rays are more dangerous than gamma rays.

Working mines, atomic creators, radiological departments or repeatedradiotherapy-ray procedure, atomic bomb explosion and nuclear reactor accidents are various responsible factors for radiation disease.

**2.8 BIOLOGICAL EFFECT OF RADIATION:-**

It depends upon level of organization, period of exposure, type of radiation and type of damage. This is summarised as below

| Level of organ | Type of damage  | Important effects   |
|----------------|---|---|
| 1.Cell         | Chromosomal abbration, mutation                           | Cell death, inhibition of cell division, transformation to malignancies |
| 2.Tissue       | Reduced or destroyed capacity, cancerous state initiation | Disruption of tissue function, death,induction of cancer                |
| 3.Whole body   | Disruption of vital system, initiation of cancer          | Cancer  |

**III.CONCLUSION**

The causes for environmental pollution are many. The multiplicity of causes makes it difficult to clearly delineate the causes and consequences of environmental degradation in terms of simple one to one relationship .Much are being done to control, monitor and rectify damage done by pollutants. The problems are diverse and some are only being recognized but it is important to keep a close control over pollutants so that we can maintain the environment in an acceptable condition for human survival.

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