

What is Environmental Health

According to the WHO definition:

"Environmental health is related to all physical, chemical and biological agents outside of a person. That is, covering environmental factors that could affect health and is based on disease prevention and the creation of environments conducive to health. therefore excluded from this definition any behavior not related to the environment, as well as any behavior related to social and economic environment and genetics. "

According to the NIEHS:

Environmental health is the area of science that studies how the environment affects human health and disease. In this context, "environment" refers to components of the natural environment such as air, water and soil, as well as any physical, chemical and social of our environment.

The environment made or "built" by man, including the physical structures where people live and work, homes, offices, schools, farms and factories, as well as community systems, roads and transportation systems, practices land use and management of waste. The consequences of altering the natural environment such as air pollution, are also part of man-made environment.

The social environment includes factors of lifestyle, diet, exercise, socioeconomic status, and other social influences that may affect health.

The interaction of environment with genetic material from one person can alter the balance between health and disease. Scientists have learned that genetics plays an important role, often a factor present in the environment triggers the development of a disease. This interaction between genetics and environment is also affected by age and gender of a person.

Physical factors

- Atmospheric factors in air and climate change not only influence our mood, but it has been found to affect the health and welfare. For example, heat waves or illness for sudden meteorological or seasonal weather changes cause allergies in sensitive people, quinsy, seizures, respiratory catarrh, dyspepsia, rheumatism, suicide, venous thrombosis, etc..

- The changes of moisture in those which, for example, working in very humid environments can cause problems for skin maceration and propensity for manifestation of papillomas (warts)
- Pressure changes (**dysbarism**). The **dysbarism** is common in some professions, for example, deep divers.
- Local climatic conditions, zonal, regional and global. Global climate change.
- Physical load. The physical load causes excessive muscle-tendon lacerations from a broken bone.
- Colors. The colors have profound influences on the emotional and physiological responses emerging from depression to excitement. Environmental pollution with uncontrolled excesses of advertising stimuli can produce nervous exhaustion and other injuries.
- Electricity. Exposures ranging from mild to severe electrocution by high voltage are common cause of disability and even death. Thousands of people die annually in the world by electrocution caused by household appliances.
- Non-ionizing electromagnetic emissions. There is a lot of evidences that electromagnetic pollution generated various physiological and pathological alterations.
- Visible and invisible lasers for military and civilian uses. There are lasers of different frequencies, for example, ultraviolet that cause severely damages in the retina if the person is exposed.
- Visible light. Light pollution (especially in large urban clusters) leads to various neurological disorders.
- Magnetism (macro variations [geomagnetism] and micro) - by common and medical utilization-.
- Particulate material: Exposure to particulate materials, for example, silica causes lung silicosis especially in mining and related trades. In large cities the exposure to diesel particulate emissions from vehicular contributes to pulmonary emphysema.
- Microwave of civilian and military uses. The civilian use of microwaves for example, in some bakery ovens can cause cataracts. The military use, depending on their characteristics – causes from moderate diseases to neurological death.
- Regional geological structure. For example:
 - Stock of radioactive minerals in the soil can be harmful to health, for example the presence of radon.
 - A geology for example, prone to landslides and soil downfalls can lead to major accidents and deaths, especially when these areas are operated by humans, upsetting the natural balance established for a long time. Including seismic areas.
- Infrared radiation. Used in various human activities, such as infrared lamps for use in kinesiology that are not properly controlled, can cause severe burns.
- Ionizing radiation. Natural and anthropogenic for military and civilian use. Including ionizing radiation for medical use, frequently causes illnesses.

- Ultraviolet radiation. Exposure to ultraviolet emissions, for example, in clubs, generates in those exposed persons ocular damage. Without the exposures of the increasing planetary for thinning ozone shield.
- Audible and not audible noise. The noises are among the most common pollutants, especially in large cities and industries are not protected. Generated from slight discomfort and sleep disorders and mild to severe hearing loss, both temporary and permanent.
- Extreme temperatures (hot and cold). The frequent changes of temperature, for example, exposure to very low temperatures in refrigeration industry personnel is consequence of Raynaud's Syndrome.
- Perceptible vibration and not perceivable. Intense vibrations, for example, perforates mining or the use of drills in the building cause vascular and neurological damage in the extremities. In large cities almost imperceptible vibration can cause permanent neuro-psychological disorders.
- Winds and air currents. Some people are more sensitive to air currents in both the workplace and in general places, for example, generating vasomotor rhinitis or "congestion" lung.

Chemical factors

- The chemicals can act alone or in combination. Their routes of entry into the body may be: a) digestive, b) respiratory c) Skin d) mucosal (conjunctival, vaginal, etc.). Or percutaneous.
- Natural inorganic elements: metals and nonmetals
- Natural organic substances
- Synthetic inorganic substances
- Synthetic organic substances (ex. agricultural pesticides)
- Drugs. Drugs - iatrogenic disease - are becoming the main cause of medical consultation today. Mostly are organic synthetic substances.

Biological factors

- Bacteria and their toxins (exo and endotoxins)
- Virus - RNA viruses and DNA viruses -
- Other microorganisms (rickettsiae, mycoplasmas, etc..)
- Uni and multicellular parasites and their toxins
- Fungus and their toxins (mycotoxins)
- Biological toxins in general
- Allergens of biological origin including haptens
- Vaccines
- Plant - fully or partially and / or toxins

Social factors

Our relationship with the psycho-socio-cultural environment is a continuous "feedback", we feed off each other in a positive or negative. The environment we provide everything necessary for living, however, humans with increasing frequency is wasting their availability. Continually we ruin the environment with our human activities for hundreds of years and this has its Nemesis, if it is true that nature behaves in strange ways sometimes, the hand of man has much to do there. And this behavior in nature (including social) and the environment affect our health.

Education and general instruction. Education can determine the adoption or ignorance to environmental favorable factors or harmful.

Outside work and work relations (social security). Unemployed individuals are more susceptible to suffer from certain diseases.

Particular customs and habits. For example, some groups may be healthier than other persons of the community such as the rules of kashero Jewish or vegans vegetarians.

Group relationships (intra and extragroups)

Fashions, customs, habits, etc.. Advertising and tendentious blurb and / or misleading information may lead to consumption of products harmful to health as some synthetic sweeteners and / or toxic processed foods.

Macro and microeconomic models, for example, the (wage) insufficient may induce recipients to inadequate nutrition and wrong environmental practices.

Racial and ethnic composition of society. Determines individual behavior, family, or social group as a whole that influence the environment and health.

Educational , social and economic policies. A framework of education that not teaches to know and use environmental variables generates preventable environmental diseases.

Frameworks for security, law and justice. A general framework of physical insecurity can cause various diseases, for example, having suffered violence, in cases where legislation is weak or nonexistent and justice is not applied correctly.

Union organizations, trade unions and others. The contracts of employment that may be beneficial or harmful to the environment or health of workers when when health is not covered and raw economic and material benefit.

Moral values, ethics and bioethics. Generate healthy or pathogenic behaviors in socially and occupational environments.

Voluntary and forced migration (wars, plagues, the earthquakes that follow, etc.. Migrant populations generally have a worse health status than stable people.

General safety conditions ranging from the legal uncertainty to widespread fear of being victim of misdeed or crime, can generate states ranging from anxiety to panic attacks.

Media - television, AM and FM radio, print media, etc.. - (Are usually the current environmental agents psycho-socio-cultural most influent, for example, to stimulate the human and environmental consumption of toxics.

It is known that the population is becoming more aware and more committed to the environment, after witnessing the ecological disasters we have experienced in recent years, oil spills, forest fires or nuclear leakage among others. Awareness campaigns have increased and are implementing more measures being taken to mitigate unfavorable future for next generations if we do something about it.

Ergonomic and safety factors

Ergonomic factors and Ergonomic variables: Ergonomic is related to the adaptation of individuals to work and / or its adaptation to the instrument, for example, the machine or the chair where he works. The places where the jobs are also related in particular if they are small or large excess. The safety of workers in the work is also codified in various institutions.

Mixed factors

Rarely the factors described above are presented in isolation. For example a volcanic eruption causes: vibration, emissions of particulate materials, gases emissions, all these factors caused by a single natural phenomenon are harmful to human health, however, affect the animals and plants present in the affected areas, which can cause food insecurity problems, general insecurity, unemployment, and others.

In urban environments we check clearly the action of mixed factors mixed. The combined action of most agents is the cause of environmental illness, observed for example, multiple chemical sensitivity syndrome (MCSS) - a modern epidemic - where we can see these harmful interactions.

Scope of environmental medicine

While environmental medicine is quite effective in establishing diagnosis and possible causes of disease, treatment is limited. For example, in communities affected massively by combinations ("mixture") factors (chemical, physical, social) the solution of these diverse impact on individual health and collective ("epidemics" of cancer, congenital malformations) usually partial, usually is ineffective and inefficient. Although it is an extremely important branch that provides security against the dangers and environmental risks.

Toxicology is one of the disciplines of environmental medicine at the time most useful to diagnose, treat and deliver predictions of environmental illness.

The clinical environment is generally underdeveloped. There are some environmental clinic histories but have not come massively in medical practice. It is for this reason that most environmental diseases pass undiagnosed and therefore untreated.

SOURCE: Wikipedia, NIEHS