

Concept of environmental toxins as *dushi visha* (latent poison)

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Abstract

Environmental toxicology is a multidisciplinary field of science concerned with the study of the harmful effects of various chemical, biological and physical agents on living organisms. There are many sources of environmental toxicity that can lead to the presence of toxicants in our food, water and air. These sources include organic and inorganic pollutants, pesticides and biological agents, all of which can have harmful effects on living organisms. In this article an attempt has been made to compile the concepts of environmental toxins as *dushi visha*.

Keywords:

Environmental toxins, *Dushi visha*, latent poison

Introduction

Humans are constantly exposed to the environmental toxic chemicals in their day today life. Now a day each and everything like food, water, air, soil, milk, etc. are polluted. Pollution comes in many forms, and it affects people differently, sometimes in ways that may not be immediately noticeable. That is why some people call toxic pollution "the invisible killer." And in many cases,

the poison accumulates and damages bodies for years before it gets noticed. A poison attains a latent or hidden stage in the body called Latent poison (*Dushi Visha*). It is retained in the tissues of living beings for a number of years; it contaminates the tissues, and is therefore called *Dushi*. So if we live at a polluted site, we could be exposed to these poisons every time when we eat, drink, wash, play or breathe.

Concept of *Dushi Visha*

Poisons, whether inanimate, animate or artificial, which have not been fully eliminated from the system or neutralized due to various reasons, remains in the body and gets manifested in the form of various diseases. As this type of poison it gets constantly polluted on account of various factors like geographical conditions, time, diet and day sleeping. It contaminates the tissues and is therefore called *Dushi visha*.

A Person afflicted with *Dushi visha* develops indigestion, aversion of food, anorexia, eruption of circular patches, urticarial rashes on the skin, stupor (mental confusion), loss of

essential constituents of the body (*Dhatu-ksaya*), swelling of the feet, hands and face, ascities, vomiting, diarrhoea, discoloration of the skin, fainting, intermittent pyrexia and excessively increased thirst. Some of the poisons produce insanity; some of cause loss of semen, while others leads to blurred speech, leprosy (*Kustha*) and various other diseases.

Complications like pyrexia, burning sensation, hiccough, obstipation, azospermia, oedema, diarrhoea, fainting, heart disease, abdominal enlargement, insanity, tremor and other complications may develop.

Concept of Environmental toxins

Many factors within the environment influences health, including aspects of the physical environment, biological environment and social environment. Environmental changes affect much physiological system and which leads in development of pathology of various diseases.

There are thousands of toxins that enter in our body on a continuous daily exposure to harmful chemicals. Toxic pollutants can poison drinking water, the fish in rivers and ponds, food grown on contaminated farmland, as well as playgrounds, homes, and the very air we breathe.

Now a day the sources of poisons are not limited, as in the days of classics. Humans are constantly exposed to potentially toxic environmental chemicals through

food in form of heavy metals and pesticides, environmental pollution of the air, water, occupational hazards and social poisons such as tobacco, smoking, alcohol and drugs of misuse, also need to be considered.

Toxins exist everywhere—from air to food to furniture. The following few toxins are commonly found in homes and communities.

1. Radon: radon is an odourless and tasteless radioactive gas that is produced from the decay of uranium, which exists in rocks and soil. It exists in high levels in mines, caves, and water treatment facilities, and can also be found in homes, particularly in basements and other areas in contact with the ground. Next to smoking, radon is the second most-frequent cause of lung cancer.

2. Formaldehyde: formaldehyde exists in nature and also various home products and materials; because it dissipates over time, newer homes tend to have higher levels of formaldehyde. Reaction to formaldehyde can depend on sensitivity and the duration of exposure—symptoms can include sore throat, cough, itchy eyes, and nosebleeds. Formaldehyde can also cause cancer. Formaldehyde sources: insulation materials, tobacco smoke, grocery bags (and other paper materials), pressed-wood products, cosmetics, deodorant, and shampoo.

3. Brominated flame retardants: there are more than 75 types of brominated flame retardants (bfrs) available commercially, and they are used to inhibit the flammability of different materials, from natural fiber to household furniture to plastics. Unfortunately, they do not stick to the materials, but filter into your environment. Body accumulates bfrs in fat tissue, and long-term accumulation can cause disruption of the endocrine, reproductive, and immune systems; neurobehavioral toxicity; and cancer. Bfr sources: paint, textiles, paper, furniture, mattresses, electronics, office equipment, carpet padding, and smoke detectors.

4. Heavy metals: lead and mercury: many heavy metals exist in trace amounts in the body but can pose significant health threats with relatively low-level exposure. Lead and mercury are the most-frequent causes of heavy metal poisoning. Lead can cause neurological, gastrointestinal, kidney, and bone marrow toxicity and neurodevelopmental defects. Mercury poisoning can be marked by headaches, low back pain, weakness, fatigue, tremors, and hallucinations. Lead and mercury sources: lead: paint and gasoline. Mercury: dental and medical equipment, fertilizers, pesticides, amalgam fillings, and seafood.

5. Particle pollution: the particles that compose particle pollution can range from dust, mold, and fungus particles to chemical compounds from fuel emissions. It may come as no surprise that the number one source of air pollution in many cities is automobile emissions. Other sources of emissions can contribute as well. Particle pollution can contribute to the development of heart and lung disease, asthma attacks, and lung cancer. Particle pollution sources: diesel- and gasoline-powered vehicles, lawn equipment, factories, wood-burning and gas stoves, wind-blown dust, damp areas (causing mold growth), and forest fires.

Human body cannot get rid of these toxins as most of these toxins are fat soluble and human body have limited excretory capacity.

The effects of environmental toxins on the fetus may be due to the placenta's inability to fully protect the fetus from exposure, or result from indirect effects on the mother or the placenta. Understanding how the maternal environment affects placental function is particularly important as this could lead to interventions to improve placental function, with long-term benefits for the baby.

Concept of Latent Poison

According to modern science a poison is a substance which when administered, inhaled or ingested, can act deleteriously

on human body is known as poison. Chronic poisoning is long-term repeated or continuous exposure to a poison where symptoms do not occur immediately or after each exposure. The patient gradually becomes ill, or becomes ill after a long latent period. Chronic poisoning most commonly occurs following exposure to poisons that bio-accumulate, or are biomagnified, such as mercury, gadolinium, and lead.

Conclusion

While it's impossible to eliminate all exposure to toxins, we can increase the awareness of what we are potentially being exposed to, and how we can limit the exposure.

Disease produced due to *Dushi visha* (bio-accumulative poison) can be treated with the help of applying *Ayurvedic* principle, it includes Panchakarma i.e Bio-purification. Detoxification is a chemical process that occurs in the body to convert toxic substances in to non-toxic substances for elimination from body through excretion. It can be concluded that vaman (emesis) and virechan (purgation)

detoxification process acts an antidote towards *dushi visha* (latent poison). It eliminates accumulated toxins and stagnated excreta and metabolites from the body, cleanses the macro and micro channels of the body. It will be also helpful in preventing the accumulation of fresh toxins in the body.

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Cite this article:

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Ayurline: International Journal of Research In Indian Medicine 2019; 3(4) : 1 - 4