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Environmental toxicity : Prevention & Cure in Ayurveda

Jyoti Rani¹, Anita Sharma², Dinesh Kumawat³

¹PhD Scholar, Department of Agad Tantra (Toxicology), National Institute of Ayurveda, deemed to be University, Jaipur, India.

²HOD, Department of Agad Tantra (Toxicology), National Institute of Ayurveda, deemed to be University, Jaipur, India.

³Assistant professor, Department of Agad Tantra (Toxicology), National Institute of Ayurveda, deemed to be University, Jaipur, India.

ABSTRACT

Bioaccumulation and biomagnification are the main process through which environmental toxicity takes place in living organism. This era is era of modernisation and urbanisation and environmental toxicity has become the most dangerous situation. In *Ayurveda* with the explanation of human health and diseases, the same importance was given to environment and other living creature also. In *Ayurveda*, environmental toxicity is explained as *Janapadodhwansa*. Four main factors are explained under *Janapadodhwansa* - *Vayu* (air), *Jala* (water), *Desha* (land), and *Kaala* (season) and these becomes more dangerous in following order. Many formulations and method are explained for these *Janapadodhwansa* factors. Some researches has been done on these method and formulation and some on other herbs and formulation. For eg- *Dhoopan Karma* with *Laksha*, *Haridra* and other drugs is explained as best remedy for the air pollution. Research study on *Dhoopan Karma* had given the promising result. Ash of some herbs are told to mix with the polluted water. To store water, copper metal and mud made vessels are told in *Ayurveda*. Research has proved that copper vessel makes water bacteria free. Soil pollution now a days is due to waste of metals and chemicals. Researches has found that the level of metal contamination can be minimised by use of herbs like *Neem*. The main protocol of management of disease occurred due to environmental pollution is to follow the moral and ethics and *Panchakarma*.

Key words: Environment, *Janapadodhwansa*, *Dhoopan*, *Panchakarma*, Detoxify.

INTRODUCTION

Environmental pollution is a change in natural composition by the dangerous ingredient which all have potency to lead an imbalance in the biosystem and become the cause of many health hazards for human being and other living creatures of earth. These dangerous ingredients can be solid or liquid or gaseous state. They affect our ecosystem in many ways and affect the animal and human being. In this era of urbanisation, environmental pollution has become so

foremost that even question the existence of living being on earth.^[1]

In *Ayurveda*, environmental pollution and toxicity is explained under the heading of *Janapadodhwamsa*. *Janapadodhwamsa* is made of two words i.e., "*Janapad*" means group of people or community and "*Dhwamsa*" means demolition. Four types of *Janapadodhwamsa* are described in *Ayurveda* - *Vayu* (air), *Jala* (water), *Desha* (place), and *Kaala* (climate). These factors become more dangerous gradually and *Kaala* is said to be the most dangerous.

In *Janapadodhwamsa*, many people at the same time are affected by diseases having similar sign and symptoms. In *Charak Samhita*, A different chapter in *Viman Sthana* has been devoted to *Jana-Padodhwamsa*. The main cause of *Janapadodhwamsa* are - *Adharma* which means unrighteous or lack of morality. The main reason behind the unrighteous behaviour is *Pragyaapradh*. *Prgya* word denote the *Dhee* (intellect), *Dhriti* (patience), and *Smriti* (memory).^[2]

Address for correspondence:

Dr. Jyoti Rani

PhD Scholar, Department of Agad Tantra (Toxicology), National Institute of Ayurveda, deemed to be University, Jaipur, India.

E-mail: jyotisurya2014@gmail.com

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Vayu Janapadodhwamsa (Air Pollution)

In *Ayurveda*, all sign of vitiated *Janapadodhwamsa* factors is explained in detailed. The signs of vitiated *Vayu* are - winds does not follow the season, means if winter season there should be cold nature wind but it would be in excess cold nature or minimal or opposite nature. Excessively moist, speedy, harsh, cold, hot, rough, blocking, making terrible sounds, excessive clashing with each other, with unsuitable smell, vapours, gravels, dust, and smoke.^[3]

Recent work on Air pollution in Ayurveda

Fumigation with *Aparajitha Dhooma Churna* for continuous five days show the potential effect on bacterial and fungal growth. *Aprajitha Dhoopan Churna* contains *Agaru (Aquillaria agallocha)*, *Vacha (Acorus calamus)*, *Nimba (Azadiracta indica)* etc.^[4] A study on household plants had proved that these plants are beneficial to maintain O₂ and CO₂ balance. Plants like Aloe vera, Lilly, Snake plant, *Tulsi (Ocimum sanctum)* decreases the CO₂ concentration in environment.^[5]

In this study on *Agnihotra* (fire ritual), which is part of rituals has proven that it is a non-conventional solution to air pollution 324 *Ahuties Yagya* with cow's desi ghee, Pipal wood (*Ficus religiosa*), *Havan Samagri* a mixture of *Kapurkachari*, *Guggulu*, *Nagarmotha*, *Balchhaar* or *Jatamansi*, *Narkachura*, *Sugandhbela*, *Illayachi*, *Jayphal*, *Lavang* and *Dalchini* etc. has shown 51% reduction in SO₂ and 60% reduction in NO.^[6]

If WHO recommendation is seen, then ninety percent population is living in bad air quality. The one and the only Air pollution management way is to reduce the release of toxic substance in the air through the combustion, vehicle and industries.

Jala Janapadodhwamsa (Water Pollution)

Water is the 75% parts of the earth and considered to give life to living being when it is pure. Water becomes impure because of decomposed dead bodies of aquatic animals, decomposed unexposed plants, unexposed water to sun, moon, and air, growth of micro-organisms and water when mixed with rainwater. The quality and potency of water are diminished and is

confirmed by sight, smell, consistency, odour, taste, chemical transformation. The major problems that arise out of water pollution are vomiting, diarrhoea, anaemia, loss of appetite, liver and kidney impairment, hepatitis A, hepatitis E, typhoid like fevers, GIT issues, skin disorders, and metal poisoning.^[1]

Recent researches on water pollution in Ayurveda

Copper utensil is told to be the best for storage of water. The research was carried out on storing of water in copper utensil and it shows the result that it kills diarrheagenic bacteria. *E. coli* was completely killed^[7] from this study, some researches has been carried out on herbs like *Krishna Thulsi (Ocimum sanctum Linn.)*, *Karpooa Thulsi (Ocimum kilimandscharium Guerke)*, *Neem (Azadirachta indica A. Juss.)* and *Asoka (Saraca indica Linn.)*, *Krishna Thulsi (Ocimum sanctum)*. in these herbs, *Krishana Tulsi* has shown antibacterial activity.^[8] *Acharya Vagbhatta* has explained *Jala Nirvishikarana Yoga* in which one researches was carried out. Water was treated with this *Yoga* and kept for one year at room temperature. This *Yoga* shows the antimicrobial effect.

Desha Janapadodhwamsa (Soil Pollution)

Due to solid and liquid waste are deposit in land which result physical, chemical, and biological deterioration. Construction material, pesticide, deforestation, urbanisation is the main reason for soil quality degradation. This also contribute in other factor like animal species extinction, climate changes, landslides etc. in *Ayurveda* literature features of soil pollution are-unusual smell, colour, touch, taste, extreme humidity, abounding in serpents, beasts of prey, mosquitoes, locusts, flies, mice, and owls, abounding in jungles of weeds and grass, abundance of excessively branched creepers, fallen, destroyed crops, smoky wind, constant wild cries of birds and baying of dogs, bewilderment and painful disposition of different kinds of birds and animals, constant agitation and overflow of water reservoirs, frequent affliction with thunderbolts, meteorites, and earth quakes, appearance of the atmosphere as if there is confusion, excitement, apprehension and darkness.^[9] If one

person came in contact with polluted land may cause swelling, burning sensation, falling of hairs and nails.^[10]

Recent researches on land pollution in Ayurveda

Many studies have been done for detection of metal contamination in soil and its management through plantation of different herbs. *Neem (Azadiracta indica)*, wild *Neem (Melia azadirach)*, and river tamarind *subabool (Leucaena luecocephala)* has been proved in lowering the Chromium concentration in soil.^[11]

Kaala Janapadodhwamsa (Season)

In modern, the season variation is not explained as separate but as a feature of other pollution. In *Ayurveda*, *Kaala Janapadodhwamsa* is explained as change in climate changes and features not according to season. It is told to be the most dangerous situation because in case of Air, water, and Soil, one can change the place but cannot change the season. Feature will not be according to *Ritu* (Season), it can be or just opposite to season.

Noise pollution

This modern era is being referred as era of noise because of vehicle sound, industrial sound, the city construction and indoor. Due to noise pollution, people are suffering from hearing loss, high Blood pressure, headache, depression, fatigue, anxiety, and even cardiac arrest. Noise pollution also affect the ability to focus on study and work. For the management of noise pollution, first, the reduction in cause and *Pranayama* helps in reduce the effect of noise pollution. *Yoga* and *Mantra* recitation is the best way to reduce the negative effect.

DISCUSSION

Janapadodhwamsa management are explained through *Panchakarma* (Detoxification therapy) and *Sadvritta & Achar Rasayana* (Right moral conduct). It can be curative and preventive also. *Panchakarma* is explained in disease as well for the healthy one. To maintain the health, one specific season has been told for *Panchakarma* procedure according to *Dosha Prakopa* (vitiation) for eg- in summer season, *Basti*

should be planned as in the summer season, naturally *Vata* become vitiated. If a person is suffering from disease, then according to the condition *Panchakarma* procedure should be done, it can be *Vaman, Virechan, Basti, Raktamokshana, Nasya*. Researches has been proved that *Panchakarma* eliminate the toxin from the body. The *Panchakarma* loose the lipid soluble toxicant from the deposited site and helps in their excretion. These toxins are the metabolite which increase the free radicals in body. When person is exposed to toxin, it gets absorbed through oral route of contact to skin it reaches to blood and plasma and get distributed in tissues. After biotransformation, the metabolite is excreted or deposit in body. when it is deposited, they act as cumulative toxicity.^[1] so *Panchakarma* helps in excretion of these free radicals and metabolite which are deposited in body due to frequent exposure.

After the *Panchakarma, Rasayana* should be given to patient as it helps in rejuvenating the cell and provide strength. For eg- *Amlaki Rasayana* which is the best immune-modulator and anti-oxidant.^[12] *Ashwagandha* possess the aphrodisiac property, rejuvenating, neuro-regenerative and it helps in dendrite formation by GABA mimetic effect and maintain the mitochondrial healthy status.^[13] Apart from these, so many *Rasayana* has been explained in *Ayurveda*.

Simultaneously the Lifestyle change and *Yoga* is important one to prevent the effect of environmental toxicity. *Yoga* is the ideal approach in increasing lung capacity and it also keeps toxins from entering our body. So, *yoga* should be done to avoid these toxins from harming our various systems of body.

CONCLUSION

The modern era is era of urbanisation, so environmental toxicity will be in flow but one can do effort to minimise this effect by doing some changes in the treating nature like by doing more plantation, by reducing the combustion, by reducing the quantity of waste in water and soil by searching the alternative method. Person should adopt right and moral things in daily life. To maintain health, *Panchakarma* therapy would be proved very beneficial and it lead to minimise the toxin in body, so that it cannot produce any

disease. Use of *Rasayana* drug helps in maintain the strength of body and act as immunomodulator. *Ayurveda* has the potency to maintain and prevent the men as well as environment from the exogenous impact. But the thing is to explore more and to adopt in daily life.

REFERENCES

1. Resmi BG, Yadav CR, Abhilash M. Impact of environmental toxicity on health in ayurvedic parlance. Int J Community Med Public Health 2022;9:3326-34
2. Yadav et al., An ayurvedic review on janapadodhwamsa, Innovare Journal of Ayurvedic Science, Vol 9, Issue 6, 2021, 1-5
3. Sharma RK, Das VB. Charaka Samhita by Agnivesa, Vimanasthana, Chapter 3: Janapadhodhwamsaneeyam Vimanam, Verse (1)6, Chaukhambha Sanskrit Series Office, Varanasi, India, Reprint. 2008;142.
4. Celine C, Sindhu A, Muraleedharn MP. Microbial growth inhibition by aparajitha dhooma choornam. Anc Sci Life. 2007;26(3):4-8.
5. Kulkarni KA, Zambare MS. Impact of house plant in the purification of environment using wireless sensor network. Scientific Res Open Access. 2018;10(3):59- 69.
6. Sharma PK, et al, Agnihotra – a non-conventional solution to air pollution. Int J Innovative Res Sci Amp Eng. 2014;2.
7. Sudha VB, Ganesan S, Pazhani GP, Ramamurthy T, Nair GB, Venkatasubramanian P. Storing drinkingwater in copper pots kills contaminating diarrhoeagenic bacteria. J Health Popul Nutr. 2012;30(1):17-21
8. Harikumar PS, Manjusha CM. Study on the Antibacterial activity of selected Natural Herbs and its application in Water Treatment. Drinking water Engineering and Science Discussions. 2013;6:199- 231.
9. Acharya VJT. Susruta, Sushruta Samhita, Kalpasthana, Chapter 3: Jangamavishakalpa Vijnaneeya, Verse 10-11, Chaukhambha Sanskrit Samsthan, Varanasi, India. 2014;568.
10. Acharya VJT. Charaka Samhita by Agnivesa, Vimanasthana Chapter 3 Janapadhodhwamsaneeyam Vimanam, Verse (3) 6, Chaukhambha Prakashan, Varanasi, India. 2007;241.
11. Saktivel V, Vivekanandan M. Springer Reclamation of tannery polluted soil for phytoremediation. Physio Mol Biol Plants. 2009;15(2):175-80
12. Rege NN et al., Adaptogenic Properties of Six *Rasayana* Herbs Used in Ayurvedic Medicine. Phytotherapy Research Phytother Res. 1999;13:275-91.
13. Singh N et al., An overview on ashwagandha: a *Rasayana* (rejuvenator) of Ayurveda. Afr J Tradit Complement Altern Med. 2011;8(5):208-13.

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