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Role of environmental pollution in epidemics and its management in Ayurveda

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ABSTRACT

Ayurveda is a holistic healthcare approach that deals with changing one's lifestyle as well as treating and preventing disease. In the *Ayurvedic* system, epidemics are referred to as *Janopadodhwansa* and are caused by a vitiated *Vayu-Jala-Bhumi-Kala*. Polluted soil, water, and air are the cause of numerous ailments. Additionally, determine if there is any connection between *Charakokta Janopadodhwansa* and the current epidemics. Detoxification measures (*Shodhan Chikitsa*), *Rasayan Chikitsa*, and lifestyle modification are a few strategies that can be used to control epidemic diseases and so restore health.

Key words: *Ayurveda, Epidemics, Janopadodhwansa, Pollution.*

INTRODUCTION

Ayurveda is a holistic healthcare approach that deals with changing one's lifestyle as well as treating and preventing disease. In the *Ayurvedic* system, epidemics are referred to as *Janopadodhwansa* and are caused by vitiated *Vayu-Jala-Bhumi-Kala*.^[1] These deteriorate mostly as a result of human contamination, which is connected to *Adharma*. According to *Acharya Charaka*. *Adharma* is the primary cause of *Janopadodhwansa*.^[2] Polluted soil, water, and air are the cause of numerous ailments. Before learning about disease treatment, it is important to grasp what exactly an epidemic is and the impact that rising levels of environmental pollution have on societal health. Additionally, determine if there is any connection between *Charakokta*

Janopadodhwansa and the current epidemics. Detoxification measures (*Shodhan Chikitsa*), *Rasayan Chikitsa*, and lifestyle modification are a few strategies that can be used to control epidemic diseases and so restore health.^[3]

AIM AND OBJECTIVES

1. To study the Role of Environmental Pollution in Epidemics.
2. Management of epidemics according to *Ayurveda*.

MATERIALS AND METHODS

Various *Ayurvedic* and Modern texts, *Samhitas*, Published articles and information available on the internet was used.

Pollution

Pollution is the introduction of contaminants into the natural environment that cause adverse change.^[4] According to the WHO (World Health Organization), environmental pollution kills more than seven million people around the world every year.^[5]

Impact of pollution

1. Air Pollution and Respiratory Diseases:

High levels of air pollution, particularly from pollutants like fine particulate matter and harmful gases, can lead

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to respiratory issues. This can potentially increase the severity and spread of epidemics such as flu or respiratory viruses.

2. Water Pollution and Waterborne Diseases:

Contaminated water sources due to pollutants like sewage, industrial waste, or chemical runoff can lead to waterborne diseases such as cholera, diarrhoea and hepatitis.

3. Vector-Borne Diseases:

Pollution can disrupt ecosystems and influence the distribution of disease-carrying vectors, like mosquitoes. Changes in temperature, humidity, and habitat due to pollution can expand the geographic range of these vectors, increasing the risk of diseases like malaria, dengue, and Zika spreading to new areas.

4. Immunosuppression:

Prolonged exposure to environmental pollutants, such as heavy metals or persistent organic pollutants, can weaken the immune system. A compromised immune system can make individuals more susceptible to infections, potentially facilitating epidemic outbreaks.

5. Climate Change:

Climate change driven by environmental factors can affect the geographic distribution and transmission patterns of infectious diseases. Changes in temperature and precipitation can create new conditions conducive to epidemics.

Janopaddhwansa

Janapada - Community

Udhwansa - Destruction

Factors responsible for *Janopaddhwansa*

1. *Vayu*
2. *Udaka*
3. *Desha*
4. *Kala*

Vikrut Vayu

Uncharacteristic of the season, i.e., flowing highly erratically or quickly, harsh, extremely cold, extremely

hot, extremely dry, and full of moisture (typically, such winds do not bring rain) The air is contaminated (filthy) with steam, sand, dust, and smoke, and it was exceedingly whirling (whirling, whirlwind, etc.), very harmful in sound, coming from many directions and crashing with each other.^[6]

Vikrut Jala

Polluted water has significantly altered scent, colour; it is hazy. Aquatic birds have abandoned the water. The reservoir has dried up; or the animals (fish, etc.) that live there have died or deteriorated.^[7]

Vikrut Desh

The natural colours, smell, taste, and touch of the land have been altered. That is, there is a lot of grass and weeds, a garden that has never been seen before, wide (spread all around) vines, crops that have dried up and been destroyed on their own, and smoke that moves with the wind. Flocks of birds and animals are racing around incessantly.^[8]

Vikrut Kala

A period with symptoms that are out of sync with the season, more severe symptoms, or both should be regarded as un auspicious.^[9]

Management

During epidemics, it focuses on strengthening immunity through various approaches like:

1. **Diet & Lifestyle:** Advocates a well-balanced diet rich in foods that strengthen the immune system, such as garlic, ginger, and turmeric. Regular exercise, restful sleep, and stress management are also crucial.
2. **Herbal Remedies:** Contains herbs with immune-stimulating qualities such as *Amalaki*, *Ashwagandha*, *Guduchi*, and *Tulsi*.
3. **Hygiene Practices:** To stop the spread of illnesses, emphasis is placed on cleanliness, personal hygiene, and sanitation.
4. **Detoxification:** Promotes the removal of toxins from the body and strengthening of immunity by means of procedures such as *Panchakarma*, a series of purifying treatments.

5. **Yoga and meditation:** Offers techniques to lower stress, enhance mental health, and improve general well-being.

Rasayan Chikitsa	Panchkarma
<ul style="list-style-type: none"> •Aushadhi •Achar Rasayan 	<ul style="list-style-type: none"> •Vaman •Virechan •Basti •Nasya •Raktamokshan

Rasayana Chikitsa: An Ayurvedic branch dedicated to longevity and renewal is called *Rasayana Chikitsa*. Through targeted treatments, dietary changes, and lifestyle choices, it seeks to enhance immunity, vitality, and strength.

Panchakarma Chikitsa is the foundation of Ayurveda, which is well-known for its treatments for purification and regeneration. It comprises of five medicinal procedures intended to remove toxins from the tissues in order to cleanse the body and bring it back into equilibrium.

Rasayana Chikitsa seeks to promote longevity and a healthy state of well-being by optimizing general health and vitality in addition to treating specific illnesses.

1. **Herbal Formulations:** makes use of certain herbal formulations or preparations, which frequently include different herbs and minerals that are well-known for their restorative qualities. Examples include the revitalizing herb *ashwagandha* and the Ayurvedic tonic *Chyawanprash*, which is rich in herbs and *Amla*.
2. **Lifestyle Practices:** promotes a disciplined lifestyle that includes getting enough sleep, practicing stress-reduction methods like yoga and meditation, and engaging in regular physical and mental exercise.

The five types of **Panchakarma** include:

1. **Vamana** (Therapeutic Emesis): used in conjunction with herbal remedies and medical preparations to induce controlled vomiting as a means of removing excess *Kapha*.

2. **Virechana** (Purgation Therapy): include using herbal laxatives to induce controlled bowel movements, which reduce excess *Pitta* and help the body rid itself of pollutants.
3. **Basti** (Enema Therapy): uses medicated enemas to balance and cleanse *Vata*, the *dosha* that governs movement and nervous system functions. These enemas can be oil-based (*Anuvasana*) or decoction-based (*Niruha*).
4. **Nasya** (Nasal Administration): Involves putting medicinal or herbal oils into the nasal passages to treat conditions pertaining to the head, nose, throat, and nerve system.
5. **Raktamokshana** (Bloodletting): Toxins are removed from the bloodstream using this procedure, which requires extracting a little amount of blood. Usually, it's done under tight guidelines and only under certain conditions.

DISCUSSION AND CONCLUSION

In the modern world, environmental pollution significantly affects a person's health. It is a major contributing factor to the rise in epidemic diseases. Understanding how environmental pollution contributes to epidemics (*Janopadodhwansa*) is crucial for developing a comprehensive strategy for better managing epidemic diseases.

Ayurvedic medicine offers strategies for managing epidemics that are both preventive and therapeutic. It places a strong emphasis on strengthening the body's defenses against disease through the use of herbs, nutritional guidance, lifestyle modifications, and cleansing procedures like *Panchakarma*. Activities like *Yoga* and *Pranayama* also contribute to maintaining general well-being and resilience against illnesses, which helps control epidemics by bolstering the body's natural defense mechanisms.

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