

# AN AYURVEDIC OUTLOOK ON AIR POLLUTION WITH SPECIAL REFERENCE TO JANAPADODWAMSA

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## ABSTRACT

Environmental pollution is a major threat for human population in current and coming times. The situation is becoming worst day to day. It has a negative effect on natural elements that are an absolute need for life to exist on earth, such as water and air. Environmental pollution consists of five basic types of pollution, namely, air, water, soil, noise and light. Today not a single component of ecosystem remains free from pollution. It exerts harmful effects not only on human health but also destroys the environment which ultimately results in the destruction of life on planet earth. As the situations of pollution in the environment exist since time immemorial, references are available in classic Ayurvedic texts such as Charaka samhita, Susrutha samhita etc, these being some of the most epic literatures in ancient medical science since the historic era. Among those literatures the most notifiable one is Charaka samhita, where Acharya charaka explains the subject of pollution in detail on the grounds of environmental situations that prevailed in ancient era.

**Keywords:** - Environmental pollution, Ecosystem, Janapododwamsa

## INTRODUCTION

Ayurveda, 'the science of life', in itself explains that it is not only a science of medicine but also it balances the total ecosystem of human existence in the best way. In short each and every aspects of good livelihood for humans are dealt meticulously in Ayurveda, thus been named so. Acharya Charaka has described on this regard, in the chapter "janapadodwamsaneyam", giving much importance to effects of environment in human health.

**Janapododwamsa:** The word Janapododwamsa originates from two words "janapada" meaning large population and "udhwamsa" meaning destruction. So whatever that leads to the ill being or deterioration of a large community is referred to as "Janapadodhwamsa". According to Acharya Chakrapani Dutta the commentator of Charaka samhita, the causes of disease is mainly "asadharana hetus" related to a community like vitiation of water, air, land and seasons. In Janapadodhwamsa "sadarana hetus" related to a community are emphasized. Factors which are common to the community are air, water, land, and seasons. Sinful acts or adharma in the form of war (sastraprabhava), affliction by attacks of rakshas and curse (abhishapa) lead to "janapadodhwamsa"<sup>1</sup>.

**Root cause for Janapadodhwamsa:** The Root cause for the vitiation of air etc factors are Adharma or misdeeds of past performed by intellectual errors. Sinful acts may be in the form of war, demons, and curse. When the rulers

of the states, towns, cities and countries transgress the righteous path and rule their subjects by sinful means their subordinates and subjects inhabiting villages and cities, and merchants add to this sinful situation. Their sinful acts perforce the righteous acts to disappear. Because of the disappearance of the righteous acts even the gods desert the people living in these places. Such are the places where seasons get impaired and lead to pollution<sup>2</sup>. In present day sinful act can be correlated to different activities like antinational elements indulging in bomb blast, crime, deforestation, not obeying government rules in the industries, discharge of untreated polluted water into the river, automobile pollutions etc, which produce pollution. The basic cause as mentioned earlier are pranjaparadha (intellectual errors), due to rajas and tamas predominance resulting in greed, selfishness, tendency to harm people, jealousy and anger. All these factors not only influence the individual, but also the society, leading to Janapadodhwamsa.

### Features of air pollution in Ayurveda

- 1) Absence of characteristic features in conformity with the season
- 2) Excessive calmness or violent blow
- 3) Excessive dry, cold heat, roughness, or humidity
- 4) Excessive clashes among each other
- 5) Excessive cyclonic in nature
- 6) Association with unwholesome smell, gases, sand ashes, and smoke<sup>4</sup>.

According to Susruta polluted vayu produces cough, dyspnea, vomiting, rhinitis, headache, fever etc.<sup>3</sup>

**Effects of visha yukta vayu:** Air which is polluted with smoke and poison makes the birds tired and they fall over the earth. It also produces diseases like rhinitis, headache, acute eye diseases etc.<sup>4</sup>

**Effects of vayu according to direction:** Eastern winds are Madura(sweet), Snigdha (unctuous), lavana (salty), guru, in nature. it causes burning sensation and aggravates rakta pitta. It is apanya(unwholesome) for kshata (injured), vishajushta (poisoned), and vranita. It is Kaphakara and aggravates all diseases. Southern winds are Madura, kashaya and avidahi in nature. It is conducive to eyes, enhances strength, rakta pittahara and does not aggravate vata. Western winds are fast, dry, rough and strength and unctuous reducing in nature. It causes depletion of kapha and medas and takes away the strength immediately. Northern wind is unctuous, soft, sweet, astringent, and cold in nature. It enhances the strength and good for person suffering from ksheena (emaciation) and visha(poison)<sup>5</sup>.

### Remedies for Janapadodhwamsa

- 1) Avoid sinful acts and intellectual errors
- 2) Rasayana prayoga or rejuvenation therapy to enhance immunity.
- 3) Truthfulness, kindness, generosity, worshipping god, codes and conduct and auspicious rituals help to prevent diseases.
- 4) Enhancing satva guna leads to prevention of "Janapadodhwamsa"<sup>6</sup>.

### Purification of polluted vayu

- 1) Dhoopana with gugglu, agaru, vacha, sarja rasa, sarshapa etc., told in the vrana chikitsa<sup>7</sup>.
- 2) Dhoopana with kaka, trivrit, vacha, kushta, sarshapa etc.<sup>8</sup>
- 3) Dhoopana with poothi dasangadi yoga<sup>9</sup>.
- 4) Dhoopana with laksha, haridra, ativisha, haritaki, musta, ela, valka, kushta, priyangu etc.<sup>10</sup>

**Praanavaha srotas and Respiratory system:** In Ayurveda, the concept of Srotas has been mentioned very specifically. Body is composed of numerous Srotas, which have a significant role in the maintenance of the

equilibrium of body elements. Their continuous and proper functioning is the factual cause for healthy state of the body; therefore, any obstruction in this process leads to disease. Right from birth to death Swasochhvasa kriya is the sign of life. The environmental pollutions and food habits disturbs the Swasochhvasa kriya, that may lead to various diseases like Swasa, Kasa etc. The act of respiration is the physiological function of Prana vata. The word Pranavaha srotas means a channel or path through which the external air enters into the body to sustain life. As it has been earlier mentioned that, all the activities in which Pranavayu is directly or indirectly involved to denote either life or the sustenance of life. Therefore, Pranavaha srotas is the most important factor for the longevity. As the Moolasthanana is the important area for the functioning of any srotas, by treating the Moolasthanana the disease related to this specific Srotas will be cured.

The internal or tissue respiration consisting of the gaseous exchange between the cells and their fluid medium is equally important for the jeevanakriya. Sushruta seems to have indicated this aspect by stating that the Hridaya (in this context, the thoracic heart) and Rasavahani dhamanias are the moolas of the Pranavaha Srotas. From Acharya Sharangadhara explanation about the total physiology of Respiration, it is understood that Hridaya is the Moola Sthana of Pranavaha srotas. According to him, "Prana Pavana" situated at Nabhi (Heart), after leaving Hritkamala (Lungs) comes out through Kantha mixed with Vishnupadamruta. After having Ambara Peeyusha (oxygen), it comes back quickly into the body to nourish the whole body and to enliven the digestive fire in the stomach. The commentator Adhamalla, in his commentary "Gudhartha Sandipani" over the above verse describes that Nabhistha pranapavana means "Nabhistha Iti Hradayastha"<sup>11</sup>.

The conduction system of heart and the respiratory centre of brain ultimately govern the process of respiration, which is done by lungs. In many of the cardiac diseases it is observed that Swasa and Kasa as common cardinal feature. Which can be regarded as Paratantra Swasa or Kasa, there are many of cardiac disorders resulting from Pranavaha sroto vyadhis which are placed under Swasa particularly Maha, Urdwa and Chhinna swasa.

### **Pranavaha srothodushti hetu (Causes for pranavaha srotho dushti)**

According to Acharya Charaka the causes for pranavaha srothodushti:<sup>12</sup>

- 1) Dhatu kshaya (wasting)
- 2) Vega sandharana (natural urges suppression)
- 3) Rooksha padartha sevana (indulgence in dry food)
- 4) Vyayama (excessive physical exertion)
- 5) Kshudhita (excessive hunger)
- 6) Anya daruna (other health violations pertained to PVS)

### **Pranavaha srotodusti Lakshana<sup>13</sup>**

- 1) Atisrustam (too long respiration)
- 2) Atibaddham (restricted respiration)
- 3) Kupitam (agitated respiration)
- 4) Alpalpam (shallow / short respiration)
- 5) Abhikshanam (frequent/ increased/ repeated respiration)
- 6) Sashabdham (stertorous respiration)
- 7) Sashoola (painful respiration).

### **Pranavaha sroto Abhighata Lakshana<sup>14</sup>**

- 1) Akroshana (loud grooming)
- 2) Vinamana (deformation of the thoracic region)
- 3) Mohana (loss of consciousness)
- 4) Bhramana (illusion / giddiness)
- 5) Vepana (tremors)
- 6) Marana (death)

Examination and management of pranavaha srotho dushti: According to Acharya Charaka, in vimana sthana, auscultation of the pranavaha srotas is most important. The colour changes that is Cyanosis, because O<sub>2</sub> deprivation or anemia is noticed as generalized symptom. The edema (shotha) is observed and conformed by sparsha.<sup>15</sup>

**Conclusion:** While explaining Pranavaha Srotodushti lakshanas, all lakshanas clearly shows the functions of lung, hence indirect reference to involvement of Lung in the Pranavaha srotas is there. Pranavaha Sroto vyadhis should be treated similar to Swasa roga. According to the concept of Ayurveda, the pranavaha srothodushti vikaras, especially diseases like swasa etc are sheetha – rooksha in nature. So for the management of such abnormalities Acharyas recommend ushna – snigdha measures.

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