



Diseases caused by environmental pollution and their remedies through Satkarma-S

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Abstract

A disease is an abnormal condition with negatively affects the structure or function of part or all of an organism, and that is not due to any external abnormality or deformity. Environment means whatever surrounds the individual. It is also known as an external environment which includes the Air, Water, Soil, Noise, Sun Radiation, Plants, Deserts, Rocks, and Buildings, etc. On the other hand, everyone has an internal environment which consists of his Body, his internal system and their functions. The Body maintains the balance between the external and internal environment, but sometimes the state of balance is disturbed due to environmental pollution and disease are caused. Yoga is one of the best solutions to overcome these issues and problems. Yoga has many branches in which Satkarma-s is one best way to purify the inner body blockages that help an individual to fight against outer virus or bacteria. Although, the objective of the research paper was to determine the effect of Satkarma-s based on valid evidence to overcome the causes of the diseases by environmental pollution.

Key Words: *Yoga, Environment, Environmental pollution, Satkarma-s*

Introduction

According to Panini, Grammar the word *Yoga* has been derived from Sanskrit verb root √**Yuj**. In Sanskrit literature on *Yoga* seems to use the word in all the three senses. √ **Yuj Samādhau – Integration**, √ **Yuj Saṃyamane – Control** √ **Yujir Yoge – Joining** So far, the first two meanings are concerned; all the kinds of literature and schools of *Yogic Sādhnā-s* have unanimously accepted these meanings (Pāṇini Vyākaraṇa) *Patañjali*, the first systematize of the Yogic discipline – seem to accept the meaning of *Yoga* as integration–since the first commentator of *Pātañjalayogasūtram* on *Vyāsa* in his commentary writes: ***Yogaḥ Samādhīḥ*** i.e. *Yoga* is *Samādhī*. *Patañjali* does not subscribe to the other meaning of √**Yuj i.e. Yujir Yoge** ‘joining’. This is mainly because *Patañjali-s* philosophy is based on *Sāṃkhyan* metaphysics and *Sāṃkhyan* believes in the separation of *Puruṣa* from that of *Prakṛti*. – With which *Puruṣa* has wrongly got itself identified. Similarly, *Patañjali* considers *Draṣṭā* Seer Principle to be these two principles is supposed to be *Yoga*. We also find

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the meaning of *Yoga* as separation in *Śrīmadbhagavadgīta*. *Yoga* standing for mental concentration is the theme of the entire Indian system dealing with *Yoga*. Therefore the second deviation of the word *Yoga* consists of stopping or blocking the activities of the Mind. *Maharṣi Patañjali* described eight stages of *Yoga* in *Pātañjaliyogasutra* and these eight stages are known as “*Aṣṭāṅgayoga*”. These eight stages are *Yama, Niyama, Āsana, Prānāyāma, Pratyāhāra, Dhārnā, Dhyāna & Samādhī*. In *Śrīmadbhagavadgīta* Lord *Kṛiṣṇa* defined “*Yoga* is the art of doing proper or right actions”. Environment means whatever surrounds the individual. It is also known as an external environment which includes the Air, Water, Soil, Noise, Sun Radiation, Plants, Deserts, Rocks, and Buildings, etc. On the other hand, everyone has an internal environment which consists of his Body, his internal system, and their functions. The Body maintains the balance between the external and internal environment, but sometimes the state of balance is disturbed due to environmental pollution and disease are caused.

ENVIRONMENTAL POLLUTION

Environment is polluted when some foreign substances enter it and affect the life of an



individual. These foreign substances degrade the quality of Water, Air, Noise and many other factors. Environmental pollution is a wide-reaching problem and it is likely to influence the health of human populations is great. This paper provides an insight view about the effects of environmental pollution in the perspective of Air pollution, Water and Land/Soil waste pollution on humans by diseases and problems, Animals and Trees/ Plants. The study finds that these kinds of pollutions are not only seriously affecting the human by diseases and problems but also the Animals and Trees/ Plants.

According to the author, still, time left in the hands of global institutions, governments, and local Bodies to use the advance resources to balance the environment for living and initiates the breathed intellectuals to live friendly with the environment. As an effective reply to contamination is largely base on Human appraisal of the problem from every age group and contamination control program evolves as a nationwide fixed cost-sharing effort relying upon voluntary participation (Sharp & Bromley, 1979).

Forms of Pollution

The major forms of pollution are listed below along with the particular pollutants relevant to each of them:

Air Pollution: The release of chemicals and particulates into the atmosphere. Common gaseous pollutants include Carbon monoxide, Sulfur dioxide, Chlorofluorocarbons (CFCs) and nitrogen oxides produced by industry and motor vehicles. Photochemical ozone & smog are created as Nitrogen oxides and Hydrocarbons react to sunlight.

Light Pollution: It includes light trespass, over-illumination, and astronomical interference.

Littering: The criminal throwing of inappropriate man-made objects, unresolved, onto public and private properties.

Noise Pollution: This encompasses roadway noise, aircraft noise, industrial noise as well as high-intensity sonar.

Soil Contamination: It occurs when chemicals are released by spill or underground leakage. Among the most significant soil contaminants are hydrocarbons, heavy metals, herbicides, pesticides and chlorinated hydrocarbons.

Radioactive contamination: It resulting from 20th-century activities in atomic Physics, such as nuclear power generation, nuclear weapons research, manufacture & development.

Thermal Pollution: It is a temperature change in natural water bodies caused by human influence, such as the use of water as coolant in a power plant.

Visual Pollution: Which can refer to the presence of overhead power lines, motorway billboards, and scarred landforms (as from strip mining), open storage of trash or municipal solid waste?

Water Pollution: the discharge of wastewater from commercial and industrial waste (intentionally or through spills) into surface waters; discharges of untreated domestic sewage, and chemical contaminants, such as chlorine, from treated sewage; release of waste and contaminants into surface runoff flowing to surface waters (including urban runoff and agricultural runoff, which may contain chemical fertilizers and pesticides); waste disposal and leaching into groundwater; eutrophication and littering

Pollution Effects on Humans

Pollution effects are indeed many and wide-ranging. There is no doubt that excessive levels of pollution are causing a lot of damage to Human & Animal Health, Plants & Trees including tropical rainforests, as well as the wider environment. All types of Pollution-Air, Water noise, and Soil Pollution have an impact on the living environment. The effects of living organisms may range from mild discomfort to serious diseases such as Cancer. We know that pollution causes not only physical disabilities but also Psychological & behavioral disorders in people. The following pollution effects on Humans have been reported:

Effects of Air Pollution

1. Reduced lung functioning.
2. Irritation of eyes, nose, mouth, and throat.
3. Asthma attacks.
4. Respiratory symptoms such as coughing and wheezing.
5. Increased respiratory disease such as bronchitis.
6. Headaches and Dizziness.
7. Disruption of endocrine, reproductive and immune systems.
8. Neurobehavioral disorders.
9. Cardiovascular problems.



10. Cancer.
11. death

Effects of Water Pollution

A. Waterborne diseases caused by Polluted Drinking-Water:

1. Typhoid
2. Amoebiasis
3. Giardiasis
4. Ascariasis
5. Hookworm

B. Waterborne diseases caused by Polluted Beach Water:

1. Rashes, earache, pink eye
2. Respiratory infections
3. Hepatitis, Encephalitis, Gastroenteritis, Diarrhoea, Vomiting & stomach aches.

C. Conditions related to water polluted by chemicals (such as pesticides, hydrocarbons, persistent organic pollutants, heavy metals etc):

1. Cancer, incl. prostate cancer and non-Hodgkin's lymphoma
2. Hormonal problems that can disrupt reproductive and developmental processes
3. Damage to the nervous system
4. Liver and kidney damage
5. Damage to the DNA
6. In the womb: may cause neurological problems including slower reflexes, learning deficits, delayed or incomplete mental development, autism, and brain damage
7. In adults: Parkinson's disease, multiple sclerosis, Alzheimer's disease, heart disease, and even death

D. Other Effects:

1. Damage to people may be caused by fish foods coming from polluted water (a well-known example is a high mercury levels in fish)
2. Damage to people may be caused by vegetable crops are grown/washed with polluted water.

Effects of Soil Pollution

1. Causes cancers including leukemia.
2. Lead-in soil is especially hazardous for young children causing developmental damage to the brain.

3. Mercury can increase the risk of kidney damage; cyclo dienes can lead to liver toxicity.
4. Causes neuromuscular blockage as well as depression of the Central Nervous system.
5. Also causes Headaches, Nausea, Fatigue, Eye Irritation, and Skin rash.

Effects of Noise Pollution

1. Decreases the efficiency of a Man.
2. Lack of concentration.
3. Fatigue: Because of Noise Pollution, people cannot concentrate on their work.
4. Thus they have to give them more time for completing the work and they feel tiring.
5. Abortion is caused-There should be a cool and calm atmosphere during pregnancy. Unpleasant sounds make a lady of irritative nature. Sudden Noise causes abortion in females.
6. Causes High Blood Pressure.
7. Temporary or permanent Deafness.

CURE OF DISEASES THROUGH SELECTED *ṢAṬKARMA-S*

The word *Ṣaṭkarma* is a combination of two words '*Ṣaṭ*' and '*karma*'. Here *sat* means six and *karma* means action and practice. *Gheraṇḍa Samhitā* describes 21 *kriya-s*. As *Gheraṇḍa Samhitā* is quite a late *Yogic* text these are not only added to the other practices but are considered compulsory to be practiced first in order to purify the *naḍī-s* in the Body.

It is only after the body is pure and there is a free flow within the *naḍī -s* that one can practice the other aspects of *Yoga*.

It is advised to keep these purifications as deep secret by the *Yogi* as those that are not prepared will not understand then and the effect of the practice will be lost. *Dhauti*, *Basti*, *Neti*, *Trātaka*, *Nauli* & *Kapālabhāti* - these are said to be the six purificatory processes.

1. *Dhauti*: That cleans the Body from inside from the upper to the lower opening. There are four types of number: *Antadhauti*, *Dantadhauti*, *Hṛddhauti*, and *Mulaśodhana*.



2. *Basti*: cleaning of the rectum. There are two kinds - *Jalabasti*, which is practiced in water and *Śuṣkabasti*, practiced on land.

3. *Neti*: cleansing the pathway between the two nostrils, and between the nostrils and the mouth. This can be done by the help of a thread or a rubber tube, Water or Milk.

4. *Nauli*: is purification is known in *Hathapradīpikā* as well in other references as *Nauli*. This is done by movement of the abdominal from side to side. *Gheraṇḍa Samhitā*, states that this practice “destroys all diseases and increases the heat of the Body”.

5. *Trāṭaka*: is the practice of gazing at an object (such as a candle) without blinking until tears appear in the eyes. This practice is performed for purification the eye as well as to develop concentration.

6. *Kapālabhāti*: or *Bhālābhāti* means the cleansing of the frontal brain. It is divided into three ways according to the technique used-*Vātakarma*, *Vyutkarma* & *Ṣiṭkarma*. These cure phlegm & mucus disorders. Furthermore one will not suffer from old age and fever.

Body cleansing is brought about by the practice of the *Ṣiṭkarma*-s or six purificatory techniques which are very important from the point of view of Physical and Mental health. These simple techniques are also highly valuable in healing internal disorders.

Concept of Dhauti

Dhauti is the first purificatory process mention in almost *Hathayogic* Text. *Dhauti Kriya* cleans the entire digestive tract and makes its function attuned. The existence and continuation of a healthy individual depends on the effective functioning of the Digestive system. *Dhauti* cleans out the stale bile, mucus and thereby facilitate removal of impurities from the Blood. There are mainly four types of *Dhauti*:

1. *Antar Dhauti*: - It has been further classified into four.

a) *Vāta Sāra*: *Vāta* means air and *Sāra* actually mean essence but in this context, it means ‘moving’. Moving the air is the meaning of the *Vāta Sāra*.

b) *Vāri Sāra*: *Vāri* means water. *Vāri Sāra* means moving the water.

c) *Vahni Sāra*: *Vahni* means fire. Moving the fire is the meaning of the word *Vahni Sāra*.

d) *Bahiṣkṛt*: *Bahiṣ* means out and *kṛt* means forcibly done. The complete meaning of this practice is ‘forcibly done i.e. taken out’. In this practice, the rectum which is known in Yogic terminology as *Śakti Nādi* is to be forcibly taken out through the lower passage, therefore, it is called *Bahiṣkṛt*.

2. *Danta Dhauti*: The second variety of *Dhauti* is *Danta Dhauti*. It has further been sub-classified by *Gheraṇḍa Samhitā*.

a) *Danta Mula Dhauti*: *Danta* means teeth and *Dhauti* means cleansing. Cleansing of teeth is known as *Danta Dhauti*.

b) *Jihva Mula Dhauti*: *Jihva* means tongue, so *jihvha śodhana* connotes cleaning of the tongue.

c) *Karnayugma Randhra Dhauti*: *Kama* means ear. *ugma* means both or two and *Randhra* means hole. Cleaning of the holes of both the ears is called *Karnayugma Randhra Dhauti*.

d) *Kapāla Randhra Dhauti*: *Kapāla randhra* means nasopharyngeal cavity, but here it refers to the roof of the mouth. So cleaning of the roof the mouth is called *Kapala Randhra Dhauti* or *Bhalā Randhra Dhauti*.

Though the sub-classifications are only four but *Gheraṇḍa* a considers *Karnayugma Randhra Dhauti* to be two, therefore, five types of *Danta Dhauti* have been enumerated by him.

3. *Hṛddhauti*: The third classification of *Dhauti* is called *Hṛddhauti*. It has been further sub-classified into three-

a) *Danda Dhauti*: *Danda* means stalk and *Dhauti* means cleansing. Therefore, *Danda Dhauti* means cleansing through the stalk.

b) *Vaman Dhauti*: *Vamana* means Vomit. Cleansing through vomiting is called *Vamana Dhauti*.

c) *Vastra Dhauti*: The technique is the same as in *Hathapradīpikā*. The only difference that we find here is about the length of the *Dhauti* cloth. It prescribes 19 cubits or 25 cubits length for *Dhauti* cloth as against only 15 cubits length prescribed in *Hathapradīpikā*.

4. *Mulaśodhana* The fourth classification of *Dhauti* is *Mulaśodhana*. *Mula* in Yogic literature is identified with the anal region. Therefore the word *Mulaśodhana* means cleansing of the anal region.



Concept of Neti

This process has been found to be useful in treating nasal congestion and other sinus issues. Inserting any foreign element into the nose, the idea itself is creating a type of repulsion. And moreover inserting a sutra through the nose and taking it out through the passage of mouth is still more difficult but we train our mind to accept it through the practice of *Neti*. There are two types of *Neti Kriya-Jala Neti & Sutra Neti*. Both these forms of *Neti* are expected to cleanse the frontal sinuses, highly effective against weak vision and it is supposed to counter all the diseases arising in the region above the shoulders.

1. *Jala Neti*: It means nasal cleansing with water. A special type of *Lota* or pot is enquired, which has a Nozzle designed to fit into the nostril. The pot should be filled with warm water. Slightly bend the heads to the right side, & place the nozzle in the left nostril, keep the body relaxed and let the water pass out through the nostril.

2. *Sutra Neti*: It means nasal cleansing with thread. In this passing a length of cotton thread through the nose. Bend the head slightly back; slowly insert the narrow end of the thread into the nostril. As the tube or thread reaches the back of the throat, insert index finger & thumb into the mouth. Pull the thread slowly out through the mouth. Hold each end with the fingers slowly & pull it back & forward.

Concept of Kapālabhāti

Kapālabhāti is an important part of *Ṣaṭkarma-s* (sometimes known as *Ṣatkriya* the Yogic system of Body cleansing techniques.

The word *Kapālabhāti* is made up of two words, *Kapāl* meaning skull (her skull includes all the organs under the skull too) and *Bhāti* means shining, illuminating. Due to the process, the organs under the skull mainly the brain and the small Brain are influenced in a good manner. Hence the word is used in that way. It is intended mainly to the cleaning of the cranial sinuses but has many other effects, according to the *Gheraṇḍa Saṃhitā*, and other sources.

When *Śwāsa* (*inhalation*) and *Praśwāsa* (*exhalation*) are performed very quickly, like a pair of bellows of a blacksmith, it dries up all the disorders from the excess of phlegm and is known as *Kapālabhāti*. It cures phlegm and mucus disorders (known in *Āyurveda* as *Kapha* disorders).

Furthermore one will not suffer from old age and fever.

Gheraṇḍa Saṃhitā, uses the word *Bhālābhāti* also for the same. We find a great difference between *Gheraṇḍa Saṃhitā*, and *Hathapradīpikā* with regard to its technique. *Gheraṇḍa Saṃhitā*, classifies *Kapālabhāti* into three types. These are *Vātkrama*, *Vyutkrama*, and *Shūtakra*. By performing *Kapālabhāti doṣhas* of *Kapha* are eliminated.

Vātakrama Bhālābhāti: *Vāta* means air and *Krama* mean sequence, thus the name suggests that the air is to be used sequentially for this practice. The air should be *Pūraka* (*inhaled*) with *Idā Nādī* (left nostril) and exhaled through *Pingalā Nādī* (right nostril). Again the process should be performed in a reverse manner. *Pūraka* (complete inhaling) and *Recaka* (complete exhaling) should be performed rapidly, without performing *Kumbhaka*. This eliminates *kapha doṣa-s*.

Vyutkrama Bhālābhāti: *Vyutkrama* means the opposite of the normal sequence. God has created us in such a way that proper organ is to be used for a particular function. However, he has also given us the ability to perform the same action from other related organ but in that case, it will be said, 'opposite of the normal sequence'. After drawing water through the two nostrils one should expel it through the mouth. A person normally drinks water from the mouth but in *Vyutkrama Bhālābhāti* the practitioner has to drink the water from the nostrils and take it out through the passage of mouth.

Sitkrama Bhalabhati: *Śitkrama Kapālabhāti* can be considered the reverse of *Vyutkrama Kapālabhāti*, in which water is taken through the mouth and then expelled through the nose.

Recaka (complete exhaling) performed in a particular manner is the main process of *Kapālabhāti*. *Pūraka* (complete inhaling) is just for the namesake. While performing *Recaka*, it is to be performed by way of affecting a push with the help of stomach muscles. The diaphragm and the muscles of the abdomen are to be moved violently and the air should be exhaled with the help of that movement. Hence, the *Recaka* is not prolonged and more air also is not exhaled. In day to day life, we *Recaka* . (Exhale) approximately 500 to 600 CC air per exhalation. During the *Kapālabhāti* process, approximately 40 to 50 cc more air i.e. 550 to 650 cc air is expelled. This shows that exhaling more air



is not expected during the process. When the *Recaka* is performed after such a push, when the muscles of the abdomen and the diaphragm are loosened, then automatically the air is inhaled.

Therapeutic Importance

1. Balances three dosas of the Human Body. These are *vāta* (wind/spirit/air), *pitta* (bile) and *Kapha* (phlegm). The disorder of these three is the root cause of unhealthy Body.
2. Increase in Heart rate.
3. Mild vasoconstriction.
4. This reduces the sluggishness of the Cells.
5. Regular practice increases the process of erythropoiesis in Bone marrow and Spleen.
6. Gives a good massage to the Digestive system and improves functions like Digestion, Absorption, and Peristaltic movement, etc. remedy in case of Indigestion, Gastritis, Hyperacidity and Constipation.
7. *Kapālabhāti* can be used to the diseases caused due to slow blood circulation.
8. It is more beneficial to the people having heavy Bodies and feeling exhausted to move their Body remedy to those who are suffering from Obesity. It reduces the depository fat in the Abdomen.
9. *Kapālabhāti* helps for better perfusion and filtration in the Kidney.
10. The "*Gheraṇḍa Saṁhitā*" says that not only do these practices rid the sinuses of old mucus, but they also make one attractive and prevent the aging process from occurring *Kapālabhāti* helps relax facial Muscles and Nerves. It rejuvenates tired cells and nerves, keeping the face young, shining and wrinkle-free.
11. *Kapālabhāti* clears the respiratory tract and keeps it free from impurities, excess mucus.
12. Internal organs like Liver, Kidneys, Spleen and Gallbladder are massaged- helping stimulation of the organs as well as cleansing of toxic.
13. Fat and Cholesterol are burnt faster because of increased Metabolism.
14. Diseases that are hard to control by medicines like Asthma, Respiratory troubles, Allergies, sinus, etc. can be cured.
15. Diseases of Heart, Lungs, and Brain are permanently cured.
16. *Kapālabhāti* completely removes blockages in arteries and controls Cholesterol.
17. Obesity, Diabetes, Flatulence, Constipation, Acidity, and diseases pertaining to Kidneys and Prostate glands, etc. are completely cured.
18. Women diseases like Uterus cysts, Breast cysts, Cancer cysts or any type of cysts in the Body are permanently dissolved without any surgery.
19. *Kapālabhāti* improves concentration power in children and adults simultaneously. It makes the face Lustrous and attractive.
20. The nose is cleansed and the Respiratory system is strengthened. The effect is calming and therefore counteracts stress.
21. *Dhauti* cleans out the stale bile, mucus and thereby facilitate removal of impurities from the Blood.
22. An elongated tongue destroys old age, death, disease, etc.
23. Through the practice of *Danda Dhauti*, one can certainly get rid of the disease of the gullet.
24. *Vaman dhauti* removes the disease of Phlegum and Bile.
25. *Vastra dhauti* care Tumour fever in large Spleen, Skin disease and disorder of Phlegum of Bile.
26. *Mulśodhana* cares the Constipation and Indigestion and gives radiant complex and Nurrisment of Body stimulates the Digestive organs.
27. *Mulśodhana* removes the malfunction of the root cause of all the diseases related to Rectum.
28. Chronic coughs and Colds, Asthma, diseases of the Spleen, and a variety of other afflictions resulting from excess mucus, bile, and other toxins are eliminated by *Dhauti-s*.
29. They are particularly beneficial in cases of Constipation, Gastritis, Dyspepsia, indispositions of the Stomach and Spleen, Phlegm, and Bile disorders.
30. People suffering from Obesity and those of a flabby and Phlegmatic constitution will find this *kriya-s* especially.



Diseases caused by environmental pollution and their remedies

31. *Jal Neti* stimulates the various nerve endings in the Nose, improves the activities of the Brain.

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