

Effect of Kapalbhathi to eliminate the environmental changes on human health

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Abstract

The effect of environmental changes on human health is vital & unavoidable in today's world. The present review aims to provide a clear understanding on the role of certain yogic techniques in the prevention of these effects. The importance of following yogic life style i.e. (Proper Aahar, Vihar, Aachar & Vichar) have utmost importance in maintaining the physical, mental & social health. Regular practice of Kapalbhathi, one of the Shatkriyas can help to prevent the adverse effects of environmental changes on human health.

Keywords - Global Warming, Health, Yoga, Kapalbhathi

Introduction

Today we are facing the environmental changes which are the cause of global warming.

Global warming is defined as the increase in the average temperature of Earth's near surface air and oceans since the mid 20th century and its projected continuation. [3] It can result in many serious alterations to the environment.

Global warming is a phrase that refers to the effect on the climate of human activities, in particular the burning of fossil fuels (coal, oil and gas) and large scale deforestation, which cause discharge of large amount of greenhouse gases of which most important is carbon dioxide to the atmosphere. The discharge of these gases is very bad effect on human health. [2]

The changes in climate are such as more frequent heat waves, increase in rainfall and in any period during the year and increase in frequency and intensity of many extreme climate events.[2]

Since the mid 19th century, human activities have increased greenhouse gases such as carbon dioxide, methane and nitrous oxide in the Earth's atmosphere that resulted in increased average temperature. The effects of rising temperature include soil degradation, loss of productivity of agriculture land, desertification, loss of biodiversity, degradation of ecosystems, reduced fresh water resources, acidification of the oceans etc.[1]

Effect of climatic changes on human health.

- 1] This global warming has direct impact on human health. It causes non communicable diseases such as injuries during natural disasters, malnutrition during famine, and increased mortality during heat waves due to complications in chronically ill patients.
- 2] The changes in climatic conditions may facilitate the transmission of water and food borne infectious diseases such as malaria, dengue fever, diarrhea, vector borne

and cardiovascular and respiratory illness such as asthma, malnutrition etc.

- 3] Suffering from stress due to loss of homes, economic instability and forced migration results in mental health problems leading to depression, anxiety, loss of confidence, loss of feeling of contentment etc.^[4]
- 4] A warmer weather conditions leads to favorable conditions for the survival of mosquitoes. Diseases transmitted by mosquitoes are most wide spread worldwide illness such as malaria and viral infections. This scenario leads to increase in infectious diseases such as common & frequent cold, cough, and fever and thereby disturbing healthy life of the individual.
- 5] Illness affecting wildlife, livestock, crops forests and marine organism which automatically hamper the human life.
- 6] The balance between tridoshas i.e. Vat, Pitta,kapha gets disturbed due to sudden & frequent climatic changes.
- 7] It becomes difficult to cope up with temperature difference to all the systems of the body thereby results in more pressure to sustain the functioning of body intact.
- 8] It also affects digestive system as jathragni gets disturbed due to frequent climatic changes.
- 9] Due to blockages in nadis, it becomes difficult to flow the prana shakti throughtout the body uninterruptedly leading to many diseases.

The WHO report is divided into direct (heat-stress related illnesses) and indirect (transmission of infectious diseases) impacts. Both documents provide ample evidence to suggest that human health may be severely impaired if the earth warms over the next century.[5]

Definition of Health as per WHO

The World Health Organization (WHO) Constitution states that ‘Health is a state of complete physical, mental and social well being and not merely the absence of disease or deformity’. This definition clearly identifies that health is a continuous function of the state of well-being.

From this definition one can come to know that mere absence of disease or deformity cannot be treated as healthy condition of individual. The state of health must be on mental & social well being also.

Physical health – One who feels strong hunger at the time of meal, who experience sound sleep at night, which passes urine & stool properly without any efforts is called as physically healthy person.

Mental health – One who experience calmness of mind, energetic while doing any work, gives respect to other’s opinion is mentally healthy person.

Social health - One who feels that we live in society & there are certain duties of a person towards society & well being of society is socially healthy person.

So by above definition we come to know that only absence of disease or deformity is not a healthy state of the person. He must be physically, mentally & socially stable.

Definition of Health as per Ayurveda

समदोषः समाग्निश्च समधातु मलःक्रियाः।
प्रसन्नात्मेन्द्रियमनः स्वस्थइतिअभिधीयते॥ [6]

Ayurveda is the art of daily living in harmony with the laws of nature. The aims and objectives of this science are to maintain the health of a healthy person and to heal the disease of an unhealthy person.

According to Ayurveda, health is a perfect state of balance among the body's three fundamental energies or doshas (vata, pitta and kapha) and an equal vital balance among body, mind and the soul or consciousness. As a science of self-healing, Ayurveda encompasses diet and nutrition, lifestyle, exercise, rest and relaxation, meditation, breathing exercises and medical herbs along with cleansing program for healing body, mind and spirit.

Yoga

The word Yoga is derived from the Sanskrit root yuj meaning to bind, join, attach and yoke, to direct and concentrate one's attention on, to use and apply.

In the sixth chapter of Bhagavad Gita, which is the most important authority on yoga philosophy, Sri Krishna explains to Arjuna the meaning of Yoga as a free from pain and sorrow.

Definition of Yoga as per Bhagvad Gita

बुद्धियुक्तो जहातीह उभे सुकृतदुष्कृते |
तस्माद्योगाय युज्यस्व योगः कर्मसु कौशलम् || [7]

The meaning of the definition is "Performing our natural duty (Svakarma) selflessly, fearlessly for the welfare of all beings. It means according to Bhagwad gita Yoga is not meant by performing any asanas or pranayamas, but it means achieving balance in every phase of your life & performing one's duties by perfection.

Yoga Darshana as represented by Yoga Sutras was given by maharishi Patanjali. Yoga Sutras is considered the basic text of Yoga. These Sutras elaborate an Ashtanga system of 8 limbs. Yoga Sutras are divided into 4 chapters or Padas as Samadhi Pada, Sadhana Pada, Vibhuti Pada, Kaivalya Pada. Patanjali enumerates these means as the eight limbs or stages of yoga for the quest of soul. They are Yama, Niyama, Asana, Pranayama, Pratyahara, Dharana, Dhyana, Samadhi Yoga is an ancient Indian practice that connects the body, mind, and soul through controlled breathing, body postures, and meditation. Its practice has many health benefits like Improves posture, Builds muscle strength, enhances flexibility, Lowers blood sugar, avoids diseases, Increases blood flow, Improves sleep, Increases lung capacity.

Definition of Yoga as per Yog darshana.

योगश्चित्तवृत्तिनिरोधः ॥[8]

The meaning of the definition is 'Yoga is stilling or controlling of the modifications or fluctuations of the mind.'

By taking control over thoughts one can proceed to the utmost aim of Yoga that is 'Moksh prapti,' Or having the divine experience of union of atma & paramatma.

Hathpradipika by Maharshi Swatmaram suggests four limbs of Yoga i.e. Asana, Pranayam, Mudra, Samadhi.

Gherand Samhita by Muni Gherand suggest seven limbs of Yoga i.e. Shuddhikriya, Asana, Mudra, Pratyahar, Pranayam, Dhyana, Samadhi.

There is a difference of opinion with reference to performing shuddhikriyas (shatkarmas) between Maharshi Swatmaram & Muni Gherand.

According to

- **Hathpradipika by Muni Swatmaram**

Swami Swatmarama (author of Hatha Pradipika) has a view with regards to Shatkarma. He has recommended these techniques only to those practitioners, who have excess fat & Kapha in their body. For others, Swami Swatmarama mentioned shatkarma as an optional practice

धौतिर्बस्तिस्तथा नेति :त्राटकं नौलिकं तथा ।
कपालभातिश्चैतानि षट् कर्माणि प्रचक्षते ॥ [9]

The meaning of this shloka is that there is six shuddhikriyas which are in the sequence of Dhauti, Basti, Neti, Tratak, Nauli, Kapalbhati.

- **Gherand Samhita by Muni Gherand**

Maharishi Gheranda has mentioned about Shatkarma as the first limb of Yoga. He mentioned in the Samhita that without shatkarma practice, no practitioner can achieve success in Yoga. As per Maharishi Gheranda, First and foremost in the practice of Yoga is cleansing and purification of our body. Without it, the progress in other limbs of Yoga will be difficult for all. Thus he has accepted it as the first step of Yoga.

धौतिर्बस्तिस्तथानेतिलौलीकी त्राटकं तथा।

कपालभातिश्चैतानि षट्कर्माणि समाचरेत् ॥ [10]

The meaning of this shloka is that there is six shuddhikriyas which are Dhauti, Basti, Neti, Nauli, Tratak, Kapalbhati.

Their purpose, however, is not only physical purification, but inner purification as well. When the body is purified, internal disorders are removed and good health is achieved. Without such purification the body will not be ready for the higher practices of yoga.

When the blockages in the nadis (flow pipe of Pranshakti) are removed by performing shuddhikriyas there will be proper study of Pranayam and thereby one can proceed to antaranga yoga for achieving the utmost aim of Yog i.e. Moksh.

Introduction of Kapalbhata Shuddhikriya

The process of Kapalbhata is related to the breathing process, however it is not a type of pranayam. But, certain sadhakas think in this manner and study kapalbhata under the impression that they are studying a type of pranayam. However, process of cleaning the wind pipe is one of the shuddhikriyas. The word kapalbhata is made up of two words, kapal meaning skull (skull includes all the organs under the skull too) and bhata 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.

Kapalbhata as per Hathpradipika

भस्त्रावल्लोह-कारस्य रेछ-पूरौ ससम्भ्रमौ ।

कपालभातिर्विख्याता कफ-दोषह-विशोष्णी ॥[11]

Perform exhalation and inhalation rapidly like the bellows (of a blacksmith). This is called kapalbhata and it destroys all mucous disorders.

The last of the six shatkarma is kapalbhata. In the Gherand Samhita it is known as bhalabhata. Bhal and kapal mean the 'cranium' or 'forehead.' Bhata is 'light' or 'splendor,' but it also means 'perception and knowledge.' Kapalbhata is a pranayama technique which invigorates the entire brain and awakens the dormant centers which are responsible for subtle perception. In English it is called the 'frontal brain cleansing' technique. It is a similar practice to bhastrika pranayama except that exhalation is emphasized and inhalation is the result of forcing the air out. In normal breathing, inhalation is active and exhalation is passive. This practice reverses that process so that exhalation becomes active and inhalation passive.

Kapalbhata as per Gherand Samhita

वातक्रमेण व्युत्क्रमेण शीत्क्रमेण विशेषतः ।

भालभातिं त्रिधा कुर्यात्कफदोषं निवारयेत् ॥ [12]

Vatakrama, vyutkrama and sheetkrama are the three types of bhalbhata. Practising them eliminates phlegm and mucus from the body.

Technique 1: Vatakrama Kapalbhata (air cleansing)

Sit in a comfortable meditative pose, preferably siddhasana/siddhayoni asana and prepare yourself as for meditation. Close the eyes and relax, keeping the spine erect. Place the hands in either jnana or chin

mudra. Practice kaya sthairyam, i.e. steadiness of the body. Inhale deeply and perform fifty fast respirations through both nostrils placing more emphasis on exhalation. Inhalation should be short. After the last exhalation, inhale deeply through the nose and exhale quickly through the mouth, slightly pursing the lips. With kumbhaka, perform jalandhara bandha, moola bandha, and uddiyana bandha in this order, but almost simultaneously. Maintain kumbhaka and the bandhas for as long as possible and count the duration. Before inhaling, release moola bandha, uddiyana and jalandhara in this order. When the head is raised, inhale slowly through the nose. Practice three rounds of fifty breaths. When this is perfected you can increase it to five rounds. You can increase the practice by ten breaths each week, so that after five weeks you are practicing one hundred breaths per round. After completing the practice concentrate on the space in front of the closed eyes. In kapalbhati a greater number of respirations can be taken than in bhastrika pranayama because hyperventilation does not occur. It can be increased to two hundred breaths with months of practice, unless advised otherwise by your guru. Kapalbhati should be done after asana or neti, but before concentration or meditation. If you experience dizziness while practicing, it means you are breathing too forcefully. If this is the case, stop the practice and sit quietly for a few moments. When you begin to practice again, do it with more awareness, and with less force. Inhalation should be spontaneous and not controlled, and exhalation should not make you feel breathless before completing the round. This is important. You should feel as if you could continue breathing in this manner beyond one hundred breaths. The effects of kapalbhati and bhastrika are similar, but due to the forced and longer exhalation, kapalbhati affects the brain differently. Andre van Lysebeth has quoted a physiological phenomenon that during normal inhalation the fluid around the brain is compressed and so the brain contracts very slightly. With exhalation this cerebrospinal fluid is decompressed and the brain very slightly expands. This is the mechanical influence of the respiratory cycle on the structure of the brain. Forced exhalation in kapalbhati increases the massaging effect on the brain by enhancing the decompression effect on every exhalation. The average number of breaths being fifteen per minute means the brain is compressed/decompressed that many times, but here you are breathing fifty to one hundred times, stimulating the brain three to seven times more than normal per round. Kapalbhati also expels more carbon dioxide and other waste gases from the cells and lungs than normal breathing. In the Gherand Samhita the method of practicing vatakrma kapalbhati is slightly different. Instead of breathing in rapidly through both nostrils, you inhale through the left and exhale through the right, inhale through the right and exhale through the left, as in nadi shodhana pranayama, except that inhalation/exhalation is done rapidly. The Hatharatnavali clarifies these two different processes. It says, "Fast rotation of the breath from left to right (right to left), or exhalation and inhalation through both nostrils together, is known as

kapalbhati."(1:55) Thus the two systems are correct. However, to accelerate the breath while doing alternate nostril breathing is very difficult.

Technique 2: Vyutkrama Kapalbhati (sinus cleansing)

The second practice of kapalbhati, vyutkrama, is similar to jala neti and is sometimes given as part of neti. Vyutkrama means ‘expelling system.’ For this practice you need a bowl of warm saline water rather than a neti lota. Lean forward, scoop the water up in the palm of the hand and sniff the water in through the nostrils. Let the water flow down into the mouth and then spit the water out from the mouth. Practice in this way several times. It is important to relax while sucking the water in. There should be absolutely no fear. If there is pain in the nose during the practice it usually means that the water contains either too little or too much salt.

Technique 3: Sheetkrama Kapalbhati (mucus cleansing)

The third practice, sheetkrama is the reverse of vyutkrama. Sheet means ‘cool’ or ‘passive.’ In this practice you take a mouthful of warm, salty water and instead of swallowing it, you push it up through the nose and let it flow out. Remember to remain relaxed the whole time. Vyutkrama and sheetkrama should both be done standing rather than squatting. Afterwards, make sure all the water is removed from the nose in the same way prescribed for jala neti, or practice vatakrama kapalbhati. The Gherand Samhita says that not only do these practices rid the sinuses of old mucus, but they make one attractive and prevent the ageing process from occurring. Kapalbhati helps relax facial muscles and nerves. It rejuvenates tired cells and nerves, keeping the face young, shining and wrinkle-free. The effects of vyutkrama and sheetkrama are the same as jala neti. Spiritually they help awaken ajna chakra.

Benefits: By doing this practice a person starts looking like Kamadeva, the god of love. This practice has many benefits. One becomes healthy as impurities of the body are removed and the face glows. A person who perfects this practice is not marked by disease or old age. When a person is healthy, fewer wrinkles appear. A truly healthy person will have a happy life even in old age, but an unhealthy person feels frail even when young. From a scientific angle, the condition described here is one of ideal health. When the body becomes completely free from internal disorders, when the negative effects of the doshas described in ayurveda do not remain, and when the mind is peaceful and steady, real health is attained. This achievement is not only physical, but also mental. Sage Gheranda points out the use of this cleansing technique for attaining good health and beauty. This is however, only a side effect, the reason for it being

the awakening of bindu visarga. When bindu is awakened and the nectar of immortality, amrita, flows, the body becomes lustrous.

Conculsion : In today's world, we all are facing the global warming & its effects which are disturbing our physical, mental & social health. Inclusion of Yogic lifestyle will definitely prove to be a proper way to bypass these effects. Performing Shuddhikriyas, Asanas, Pranayama, following proper diet can help preventing the same.

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