

## A Scientific Analysis Of The Swara Yoga

Dr. Sujata Jena<sup>1</sup>, Dr. Sagar Mantry<sup>2</sup>

<sup>1,2</sup>Assistance Professor, Dept. of Yoga & Naturopathy, MSCB University, Baripada

### INTRODUCTION

Yoga is the evolutionary process of integration (yuj = union). In the Bhagavad Gita, Lord Krishna says “Samatvam yoga uchyate” (yoga is equanimity). The yogic concept of Loma Viloma (balance of the two sides/opposites) encompasses the wide variety of processes that occur in our body, emotions and mind and, in this way, achieves this mental equanimity. Yoga and tantra emphasize the balance between the two halves of the body in terms of Loma and Viloma. The right side of the body is considered to be male in nature, endowed with warm, golden and positive pranic energy and is represented by the nadi pingala (energy channel to the right of sushumna). The left side of the body is considered female and endowed with cold, silvery, negative and apanic energy and is represented by the nadi ida (energy channel to the left of sushumna). The sushumna nadi is the energy channel that runs through the center of the central canal of the spinal cord. (Note: All of these energy channels are found in the pranamaya kosha, although they have related structures in the physical body.) The yogi seeks to understand, harness, and achieve balance between the energies of the two halves of the body. The best practical example of this concept is found in the study of the nasal cycle.

The nasal cycle is an ultradian rhythm of nasal congestion and decongestion with a quasi-periodicity between 60 and 240 minutes. Keyser made the first formal description and use of the term nasal cycle in 1895. However, the concept of the nasal cycle and the understanding of its role in our lives existed much earlier in Indian thought. The Vedic science that studies the function of the nasal cycle was known as Swarodaya Vigjnan (swara = sonorous sound produced by the flow of air through the nostrils in the nasal cycle, udaya = state of functioning and vigjnan = knowledge). The Shivaswarodaya, an ancient Sanskrit literary treatise, advises the yogi to undertake more peaceful and passive activities (soumya karya) when the flow from the left nostril is dominant (ida/chandra swara), to engage in strenuous and tiring activities (roudra karya) when the flow from the right nostril is dominant (pingala/surya swara) and to relax or meditate when the bilateral nasal flow (sushumna swara) is operative, as it is considered unsuitable for carrying out worldly activities. The ida swara (left nostril dominance) has been described as feminine, Shakti and moon-like (chandra), while the pingala swara (right nostril dominance) has been described as masculine, Shiva and sun-like (surya). Similarly, the traditional Indian description of Ardhanarishwara is that Shakti (the feminine element) is represented on the left side and Shiva (the masculine element) on the right side of the body. This notion of left-right, feminine-masculine duality was common in traditional Eastern medicine and also in Western alchemy. The nasal loop has been demonstrated not only in humans, but also in rats, rabbits, and domestic pigs.

### A. Rhythmicity of the swara

The textbooks of Swara Yoga (Charandas, 1954; Kannan, 1967; Gautam, 1975) describe a definite pattern of breathing in a healthy person every day of the month at dawn. It is said that on the 1st, 2nd, 3rd, 7th, 8th, 9th, 13th, 14th and 15th of the bright fortnight (the two weeks after the full moon), the breath should flow predominantly through the left nostril at dawn and in the morning. On the 4th, 5th, 6th, 10th, 11th and 12th it should flow through the right nostril at dawn. Similarly, on the 1st, 2nd, 3rd, 7th, 8th, 9th, 13th, 14th and 15th of the dark fortnight (the two weeks after the new moon), the breath should flow predominantly through the right nostril at dawn and on the 4th, 5th, 6th, 10th, 11th and 12th it should flow through the left nostril at dawn. It is difficult for modern man to have these natural patterns due to chaotic lifestyles, but in preliminary studies conducted with students who attended six months of yoga training at ICYER, Dr. Swami Gitananda Giri of Yogamaharishi had reported a clear relationship between the lunar phase and the lunar phase. swara pattern.

### B. Activities prescribed in various swaras

#### 1. Activities prescribed in the lunar swara

Starting new projects, drinking warm liquids, studying and learning, travelling, dancing, singing, marriages and other auspicious ceremonies are prescribed to be performed when one is in the lunar swara (left dominant nostril).

#### 2. Activities prescribed in solar swara

Stringing activities such as sports, creative writing, starting a battle, eating, sleeping and prolonging business is activities prescribed to be performed when one is in solar swara (right nostril dominant).

#### 3. Prescribed Activities in Sushumna Swara

During the period when both nostrils function equally, worldly activities are prohibited and the recommended activities are yogabhyasa, meditation, puja and other similar spiritual and relaxing activities.

### C. Interesting Observations on Swara Yoga

Some interesting observations made in relation to Swara Yoga are:

1. Main meals should be consumed in the solar swara.
  2. Bathing should be done in the solar swara and there is a danger of catching cold if done in the lunar swara.
  3. Objects of hot potency should be taken into the lunar swara, as well as liquids.
  4. Items with cold power should be taken in solar swara.
  5. One should go to sleep in the solar swara.
  6. If the man has the solar swara and the woman has the lunar swara during intercourse, the conceived child will be a boy. On the contrary, the conceived girl will be a girl (this interesting observation deserves a scientific study).
  7. If a person has headache, cold, high blood pressure, heartburn or asthma attacks, artificially changing his swara pattern to the opposite swara can bring benefits and provide relief within an hour. (Again, it is worth studying scientifically, as it would be useful in terms of immediate symptomatic benefit for patients who consider it as such.)
  8. Indulgence in intercourse during the flow of the same swara of both partners will not result in pregnancy. (It is worth doing scientific research, as it has been proven to be a very effective family planning method.)
- Several hypotheses have been put forward about the mechanism of the initiation of the nasal cycle and much research has been done in this field. The teleological explanation indicates that while one nostril was active in its air conditioning function, the other was at rest. The use of Yoga Danda (a T-shaped wooden instrument used by yogis to regulate differential breathing patterns), the pressure of a crutch under the armpit, pressure on the chest while sitting, and even the act of lying on the sides have been shown to influence the nasal dominance pattern. All of these maneuvers cause a decrease in airflow in the ipsilateral (same side) nostril and an increase in airflow in the contra lateral (opposite side) nostril. The pattern begins to change after one minute, stabilizes in both nostrils around the fourth minute, and peaks at 17 minutes with crutches and 11 minutes in lateral recumbency. Congestion of the mucosa of one nostril causes the contra lateral nostril to become dominant, and vice versa. The nasal cycle depends on the tonic activity of the limbic autonomic nervous system, the levels of circulating catecholamine's and other neuro hormones.
- Vinod Deshmukh has shown that nasal congestion is correlated with low sympathetic activity and high parasympathetic activity, while decongestion is directly correlated with the pattern of high sympathetic activity and low parasympathetic activity. Virendra Singh has shown that compression of the hemithorax from any lateral, anterior, posterior, or superior surface can cause congestion of the ipsilateral nostril with simultaneous decongestion of the opposite nostril. Keuning has shown that anesthesia of the nose or larynx does not affect the nasal cycle, but that it does not exist after cervical sympathetic denervation and laryngectomy. Mitti Mohan and Eccles demonstrated that airflow into the congested, patent nostrils caused reflex congestion of the patent nostril. Eccles also proposed that the hypothalamus was the center of sympathetic effects on the nasal mucosa and the nasal cycle.

### EFFECTS OF NASAL CYCLING AND FORCED BREATHING THROUGH A NOSE PITCH

Wernitz et al. reported on selective hemispheric stimulation by unilateral forced breathing. They demonstrated that forced breathing through one nostril produced a relative increase in EEG amplitude in the contra lateral hemisphere. Blocco et al. demonstrated that unilateral breathing affects men ipsilaterally in both spatial and verbal tasks. Their spatial performance is better when they breathe through the right nostril and their verbal performance is better when they breathe through the left nostril. In women, it affects performance in the contra lateral direction, but only in spatial tasks, and their spatial performance is better when breathing through the left nostril. However, in a study of 108 schoolchildren, K.V Naveen et al found that yogic breathing through a particular nostril increased spatial rather than verbal scores without lateralizing effects. Mitti Mohan assessed nostril dominance by reference to bilateral galvanic volar skin resistance (GSR), which is an indicator of sympathetic activity. She found that sympathetic activity was lowest in ida swara (left nostril breathing), followed by pingala swara (right nostril breathing), and was highest in sushumna swara (bilateral nostril breathing). Back has shown that right nostril breathing significantly increases blood glucose levels, while left nostril breathing decreases them.

Shirley Tellese has shown that right nostril breathing can significantly increase metabolism, as measured by an increase in baseline oxygen consumption with a month of practice several times a day. They also demonstrated that breathing exclusively through the left nostril, repeated 4 times a day, produced a significant increase in basal GSR, suggesting reduced sympathetic activity of the palmar sweat glands.

1. Rai et al. found that induced breathing through the left nostril produced a decrease in systolic, diastolic, and mean blood pressure. They suggested that left nostril breathing could be used as a prophylactic means to combat the increase in blood pressure associated with daily stress and life tension. They also found that induced breathing through the right nostril caused blood pressure to correct to normal levels, an increase in heart rate, an increase in skin conductance, and an increase in body temperature.

### CONCLUSION

The science of swara, of recent interest to scientists all over the world, has been exhaustively analyzed by traditional Indian yogis. Although they did not have the physical equipment available for modern science, these yogis, through their dedicated practice (abhyasa), intuition (antar drishti) and self-analysis (swadyaya), had made a great number of observations on this concept. Recent scientific studies have helped us better and methodically understand these concepts and shed light on the potential health benefits of single-pit forced breathing in various medical conditions. Further research

is needed to demonstrate the effectiveness of these techniques in clinical conditions such as hypertension, low blood pressure, autonomic dysfunction, and diabetes. The interesting observation that changing the nasal dominance pattern to the opposite side can alleviate conditions such as acute asthma, heartburn, and headaches requires further study before these techniques can be recommended for clinical trials and patient care. The theory that conception does not occur when both partners have the same swara, if proven true, will be a welcome addition to the contraceptive arsenal, especially in situations where other methods, such as oral contraception, are contraindicated. In conclusion, it can be said that the concept of Swara Yoga is a very interesting area for further research and could serve a wonderful purpose in the field of patient care and in improving our understanding of how to live in harmony with nature.

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