Review Article

A REVIEW ON THE STRING OF LIFE FROM AYURVEDA AND YOGA PERSPECTIVE: A CRITICAL ANALYSIS
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ABSTRACT
Out of 16 hours of wakefulness, we are not conscious of our breathing. On observation it is found that our breath flows in either one nostril more than the other. This keeps on alternating in a periodic manner known as Swara i.e. rhythm of life. Hatha Yoga declares “Ha” means sun and “Tha” means moon where the right nostril is Pingala Nadi (sun like) and left nostril is Ida Nadi (moon like). This breathing is known as Prana Vayu (Vata) in Ayurved and Prana (life force) in Yogic scriptures. The physiology of breathing can be grasped clearly after analyzing the Autonomic Nervous System. Yoga advocates that by breath regulation (Pranayam) diseases can be cured and this comes under Adravyabhisheka chikitsa (non- medicinal therapy) in Ayurveda. Food and Drug is either anabolic or catabolic in nature and their post digestion effect not only affects the fundamental constituents (Doshas) of the body but also results in shifting of the breath from one nostril to the other. Apart from medicines the body is capable of healing itself by homeostasis. Now it is time to put the ancient Yogic scripture under investigation to know how one can regulate his breathing consciously and achieve a balanced State of Body, Senses & Mind to establish social wellbeing at large.

Keywords: Ida, Pingala, ADRVAYABHOUTA CHIKITSA, AUTONOMIC NERVOUS SYSTEM, 9 karana Dravyas, Quantum Physics.

INTRODUCTION
This is an attempt to harmonize the most ancient life science i.e Ayurveda with the most critically developed modern science by the help of the principles stated in the “Yoga Shastras”. The Human body is the focal point of observation. The atmosphere surrounding the earth serves the same purpose as the ocean does for the aquatic creatures. Starting from the most intelligent humans to a unicellular organism, take their nutrition from this very atmosphere. We all breathe in from this atmosphere and breathe out to this atmosphere. This indispensable fact had prompted the Vedas in declaring “vasudhaiva kutumbakam” (Universal Family). Animal kingdom depends on Plant kingdom and both of them ultimately depend upon the mines and minerals for their existence. Hence everything within the atmosphere are inter related as one family.

Breathing is the first sign of life. Our nose has two nostrils and it is observed that we seldom breathe through both the nostrils and it is best noticed when we are affected by cold, where either of the nostril is always choked. Normally one of the nostrils is more active than the other. The Yogic scriptures say that the breath is active in one nostril for one hour and then shifts to the other side. When the breathing operates in left nostril it is called Ida Nadi (Sympathetic Stimulation) and when it operates in the right nostril it is called the Pingala Nadi (Parasympathetic Stimulation). And the fraction of time taken in shifting from left to right and vice versa, is called Susumna Nadi. In this Mixed Stimulation no work of any material benefit should be undertaken because it will nullify the desired result. In a day 4 times are located by our ancestors where no work except meditation & prayers are done. These are sunrise, sunset, mid-day and midnight known as “Sandhya Kala” (Twilight).

All the Yogic Scriptures are considered as the first and foremost literatures of Ayurveda under Adravyabhisheka chikitsa (Non-Medicinal Therapy). Today most of the diseases are due to faulty life styles. We must understand the right way of balancing our body with the ever-changing environment to be in harmony with nature and not merely changing foods and places of our livings. Man is the only creature that survives from poles to equator and from deserts to islands. It is a well experienced fact that geographical and environmental condition affects the physiology of a man and gradually changes his psychology. Here the body is tied to the mind by the string of breath. The Yogis of India knew this fact and steered their breathing to live in the caves of the Himalayas being spiritually undisturbed.

FUNCTIONS OF IDA AND PINGALA NADI
Ida is related to moon and when it is active has a cooling effect on the body. The body becomes nourished and the mind is more concentrated. All the mental faculties are on high alert. There is greater capacity to imagine, memorize, judgment, decision making capacity too increases. Concentration in steady works arises naturally in Ida Nadi. All the peaceful, steady and pious work should be accomplished in this Ida Nadi. The scriptures say Monday, Wednesday, Thursday & Friday are considered to be...
Pingala is related to sun and when the Pingala Nadi is active the body gets warm up for any physical work, a person experiences a natural tendency of hunger & thirst. The body is excited for doing vigorous work. Starting from physical assault to consuming alcohol, arguments, fighting and any work that requires courage and vitality should be performed in pingala nadi. Gambling, conspiracy, poisoning the enemy can be done successfully during Pingala Nadi activation. Apart from four days related to moon rest three days are attributed to sun. Following are some prescribed instructions from “Shiv Swarodaya” & “Swar Chintamani” to be observed.

One should wakeup in morning when Ida Nadi is active and should go to bed at night when Pingala Nadi is active. All religious and pious activities, reading and oil massage over body should be done when Ida Nadi is active but defecation, bathing, food intake, sex, sports, wrestling, drinking alcohol, riding vehicles, arguments, debates, writing and war should be done when Pingala Nadi is active. Meetings with high official and entering new house should be done when Ida Nadi is active.

To harmonize the above extracted prescriptions from Shiva Swarodaya and Swara Chintamani we have to focus on the Autonomic nervous system and analyze the Sympathetic and Para Sympathetic effects on various organs and system of the human body as stated in modern texts of Physiology.

When a person goes to bed at night his Pingala must be active because during Para Sympathetic stimulation at first the heart beat slows down, the bronchial tubes are constricted making respiration slow and steady, the pupils get constricted facilitating the closure of eye lids. Due to this the RAS (Reticular Activation System) get depressed and the person falls asleep quickly and naturally. Therefore, without any difficulty we can infer that the Pingala Nadi rightly coincide with the Para Sympathetic stimulation established by modern scientists.

At morning when the person wakes up while Ida Nadi is active then due to Sympathetic stimulation his pupils are dilated, heart rate increases with more blood flow all over the body. The lungs are dilated for more oxygenation, feeling fresh and thus the last night’s sleep was a good one. If the opposite happens then one can hardly sleep at night when Ida is active and at morning if Pingala is active during waking up, then he feels hard even to open the eyes. The heart rate is still slow, and the lungs are constricted, hence drowsiness follows even after waking up and could not involve completely in the outer world.

Passing of stool and urine is done during Para Sympathetic stimulation because the sphincters are relaxed, and the urine output together is more, assuring complete evacuation. If the same defecation is tried in Sympathetic time then one has to try hard forcefully due to constriction of the sphincters, urine and stool evacuation is incomplete. Logically if this process continues for some days then it leads to chronic constipation and piles. At last due to accumulation of stool for longer period the toxins may cause fistula.

Smearing of oil over body must be done when Sympathetic is active because now the sweat pores are wide open, which facilitates the quick and more absorption of the oil to the nerve endings. Oil is considered as Vata Nasaka which nourishes the peripheral nerves and pacifies their excitation.

Bathing is done when Para Sympathetic stimulation is active because the same skin pores are closed, and the water do not get absorbed into the body unnecessarily. But if bath is taken during sympathetic stimulation then no doubt water gets absorbed into the body as blood in capillary tubes in CTBT test, hence the person gets cold unwontedly. Many people complain of chronic cold and migraine despite of medication. The fundamental cause lies here.

Taking food in Pingala is advocated because in Para Sympathetic stimulation the secretion of all digestive juices is increased; the peristalsis movement also increases in facilitating more intake of food and their proper digestion along with good absorption too. In Sympathetic stimulation the GIT slows down in carrying the food to its final destination. This is called Mandagni (slow peristalsis movement) and responsible for production of Ama (undigested food particles). Diseases like Amlapita (hyper acidity) & Amavata (rheumatoid arthritis) are common in these people who intake food during their Ida Nadi activation.

Copulation or sex should be done during Para Sympathetic stimulation as the blood flow to the corpus spongiosum of penis is increased making it erect and rigid for long and better satisfaction. If the Sympathetic is active during sex, then no doubt there will be pre-mature ejaculation as soon the penis gets erect. Here the scripture says that when the male partner is in Para Sympathetic stimulation the female must be in Sympathetic stimulation because if the female will also be in Para Sympathetic then her ejaculation will be soon without herself getting satisfied.

It is said that reading is good in Sympathetic and writing in Para Sympathetic. We all know of the modern medical fact that the left hemisphere of the brain controls the right side of the body and vice versa. Therefore, when Ida Nadi is functioning then the right hemisphere is active and when Pingala Nadi is active then definitely the left hemisphere is active. The function of right lobe is that it is good in imagining, contemplating, emotional, good in memorizing etc. The left lobe in other hand is very logical, mathematical, practical, physical and above all critical and hence good for writing purpose where the physical hand is more active. Over all Ida is mentally active and Pingala is physically active.

Meeting with elderly persons of high esteem like teachers and boss etc must be performed during Ida Nadi because in such case one should be calm and steady in mind for not to hurt their sentiments or ego. He must be concentrated with his aim and objectives for such meetings. This behavior no doubt impresses them and earns their favor.

During Para Sympathetic stimulation one must proceed for physical assaults, war, drinking alcohol, gambling, poisoning the enemy, riding vehicle etc. in short, all the vigorous activities which requires prolong physical energy. In this Pingala Nadi the heart rate slows down and there will be no palpitation/tachycardia hence no fear. When a person gets frightened his decision-making capacity is lost, confusion over shadows the intellect rendering the mind blank and is unable to accomplish such an act of valor.

The Sympathetic stimulation is soothing and cooling like the moon because in this phase the glycogen is converted into glucose continuously and get absorbed in every cell to give energy. It nourishes the whole body as the moon nourishes the Earth. Where as in Para Sympathetic phase the glucose is being stored in liver for future use and hence the physical output is increased. One can run or work for a long time in Pingala Nadi than Ida.

It is stated that the whole world exists in one’s breath. The complete knowledge of this can make a person disease free.
from lungs breathing it may be called as brain breathing. And by systematic breathing according to the days of a week one can enhance his brain cells which lie dormant till today. This is supreme Yoga of the Indians who used it only for their spiritual growth, but we must infer that if it can enhance spiritualism then it can accomplish anything material in this world without doubt.

**Alterning the active Nadi**

To shift the breath from left nostril to right nostril one has to choke the left nostril with a piece of cotton for 5 – 10 minutes then the breathing slowly becomes parasympathetic and vice versa15. If the left arm pit is pressed by the right-hand fist for some time, then also the breath shifts its position from left to right15. If a person sleeps on the left side in a flatted without any mattress then his breath shifts to the right side15. In Ayurveda if a person takes “Sitva Veerya” (anabolic drugs) drugs in empty stomach then his Sympathetic stimulation gets activated15. If one or two table spoons of honey is taken in empty stomach, then one’s Sympathetic stimulation get activated. And if one or two spoon of cow ghee is taken in empty stomach then his Para Sympathetic stimulation gets activated15. It is said that honey and ghee in equal quantity is “Matra Virudhha Ahara” (dietetic incompatibility) because it will activate the susunma nadi i.e the mixed stimulation which will render the body in “hanging” condition and is definitely a poisonous state of being. We have noticed that “Yoga Danda” was carried by the rishis and munis; it is only to exert pressure in the arm pit to shift the breathing pattern15 and not to rest their hand to do japa.

This is our body’s bio feedback mechanism in order to maintain body’s temperature, pressure, hormonal balance and balance in between body, senses and mind. Our subconscious mind through the Autonomic system silently maintains the balance. Yoga enables a person to take over the balancing responsibility consciously. If the breathing pattern do not maintain proper balance as per the days in a week then no doubt the body is going to suffer. Every treatment of any disease must start with correcting the breathing pattern first. This is a part of “Nidana Parivarjana” i.e. to remove the causative factors of the disease.

**CONCEPT OF MAHABHUTA**

“Sarva dravamy pancha bhauitakam”, means everything in this world is made up of 5 basic elements viz. Earth, Water, Fire, Air & Ether. Even the Swara Yoga declares that in each breath cycle of Ida or Pingala all the 5 Mahabhutas (the 5 elements) flows one by one. At first Vayu Mahabhuta flows, then Agni, then Prithvi, Jala and lastly Akash Mahabhuta16. Now days we have become very extrovert and don’t even care to witness our breath/Life. If we can just become introvert for a while then we will observe that the breath which is exhaled out naturally sometimes comes out touching the side walls of the nostril, sometimes it touches the upper portion, at times it touches the down portion of the same nostril. When the breath touches the side walls then know that Vayu Tattwa (air element) is active at that period, when it touches the upper portion of the nostril then Agni Tattwa (fire element) is predominant. When the breath don’t touch anywhere and pass in the middle then Prithvi Tattwa (earth element) is predominant and when it touches the lower portion of the nostril then know it to be Jala Tattwa (water element). Lastly when both the nostrils flow equally and slowly then Akash Tattwa (ether element) is active15. Then the breath shift to the next nostril starting from Vayu, Agni, Prithvi, Jala and end in Akash Tattwa.

Another technique is given in Swarodaya Shatra to witness the flow of tattwas in breath. Take a clean mirror and blow the inspired air with full force through the mouth on the surface of the mirror. We can notice that the water vapors present in the expelled air will exhibit a certain pattern on the mirror. If there is a square or quadrille then it is Prithvi, if it is a crescent moon shape then Jala, if the image is of a triangle then Agni, if the shape is a circle then Vayu Mahabhuta and if there appear many drops then Akash Mahabhuta is active at that time period16.

**Practical utility of Swara Yoga**

1. Ida Nadi presides over East & North directions; hence during flow of Ida Nadi never travel towards these directions. Pingala Nadi likewise presides over west & south direction and during flow of Pingala never travels towards south and west direction. If one does not follow then he is likely to encounter with thieves, misfortune, accident and even death. It is like swimming against the electromagnetic flux of the solar system.

2. Before travelling check the flow of swara then step out the corresponding foot of the active Swara i.e if Pingala is active then step the right foot first and vice versa,20 in order to attune with the solar electromagnetic flux.

3. During the flow of Ida Nadi always avoid the Agni, Vayu and Akash Tattwa. Never undertake any worthy work because it is likely to be fruitless and sometimes harmful.21

4. When Earth element is strong always do steady works and when Water element is strong do all the moving actions for full and complete results.22

5. During the flow of Pingala Nadi when Fire element is strong do all the difficult actions and in Air element do actions for harming the enemies. During Ether element no action except meditation should be done in either Swara.23

6. Only Water and Earth are good for both the Swaras.24

There are methods in Swara Yoga to know the past, present and future. A person perfect in this knowledge can answer any question about disease, war, child birth, success and failure, marriage etc. but here it is irrelevant to include them.

**Concept of Tridosha**

We need not discuss here the concept of creation as per Indian philosophy rather we can take a small step from Physics to Quantum Theory of ‘Tridosha’.

“Va Gati Gandhanayo” – That which is in Motion and carries Odor from one place to the other is called Vata. In other words, the air which flows outside and carries smell to our nose and enters within is Vata. In Charak Samhita it is said that this Vata is responsible in holding the planets in their positions, therefore the air which we breath is a gross manifestation of “motion”. Classical Physics admits that the whole Universe is in a continuous state of motion and Vata is the cause of rotation and revolution of the earth then what to say of Human Body. Principle of treatment in Ayurved state that treatment of Vata is half of the entire treatment.

“Tap Santape”- There is latent heat in every object that is in motion, may it be in positive scale or negative scale of centigrade Celsius. This is Pitta in Ayurveda responsible for the food metabolism and converting the same to various tissues in the body. Physics says when two or more particles collide with each other then there arise a reaction may it be exothermic or endothermic in nature. This latent heat which arouse out of friction of blood and lymph circulation, skeletal movement, excitation of the nervous system etc generate an overall heat
called Jatharagni. The secretions like HCl, Pancreatic, bile etc are nothing but form of heat which has changed its form of existence. In Vedic texts the importance of agni (fire) is secondary to sun in sustaining life. Any transformation from subtle to gross and vice versa within the body require heat, hence the concept of 13 forms of heat cannot be ignored in both physiology and pathology of Ayurveda.

“Silis Alingenae”- The centripetal and centrifugal forces which holds the electrons to the atom, the electrovalent and co-valiant bond which holds the atoms together in an element are nothing but the binding energy of Kapha explained in Ayurveda. Like the cells form tissues, then organs, organ systems etc in composing the body within the boundary of skin. Without Kapha/Bond, the entire universe would have been scattered into sub atomic waves. This Human Body is considered as Micro Cosmos; hence those principles which govern the universe ought to govern this Body too. At last Motion, Heat and Bond are Vata, Pitta and Kapha concept in Ayurveda without which nothing can exist. The same principles of Ayurveda were applied to plants and animals too (Vriksashayurveda, Aswayurveda, Gajayurveda etc).

The foremost theory observed by Quantum Physicists is that – Everything is made up of waves; and also, particles. The single and double slit experiment where electron beam is projected to the single slit and then to the double slit board, there was a screen behind the slits in order to observe where the electrons strikes. The single slit shows the particle behavior of the electrons whereas the double slit shows the wave like behavior of the same electrons ejected from the same electron gun. In Ayurveda we admit in a concept apart from Quantum Theory and is interesting too.

Concept of 9 Karana dravyas and quantum physics

There are 9 Karana Dravyas (causative factors of creation) viz. 5 Mahabhut (ether, air, fire, water & earth), Dik, (direction) Kaal (time), Mana (mind) and Atma (soul). These 9 elements are the building blocks of even the sub atomic particles. Just like the covering of an onion the subtle element is in the core part and responsible for the creation and existence of the gross one. Hence ether element is the subtlest wave form of Pancha Mahabhuta which later manifest as a physical particle. Dik or direction is more subtle than ether. Then more subtle is Kala or Time. This Time is homogenously present in this Universe of our experience. Now come the subtlest form of energy or wave i.e Mana or Mind. In the double slit experiment method when the electrons were fired and no one to observe, then the pattern behave as wave on the screen. But when a high-resolution camera was installed to record the path of electrons in which they cross the slit then astonishingly the pattern behind the screen behaved as particle. The same experiment conducted with the same instruments hundreds of time by various Quantum Scientists got the same result. When observed the pattern become particle and when not, they behave as wave.

This Mana or Mind is an inseparable constituent of the creation; it is more subtle than Kala, all powerful and has the capability to influence nature. Starting from the Vedas, Bible, Quran all the texts are full of examples and stories where Mind had controlled the nature. The first function of mind is to observe, attentively. Logically when one is attentive all his scattered thoughts get converged to the object of attention/observation. Just like an iron rod when it is magnetized all its molecules get arranged in one direction and behave as an individual magnet. And this magnet is capable to deflect the magnetic or electric field. Thus, the mind which is concentrated and well-disciplined can alter natural phenomena. According to Veda this world is “Bhoga Loka” (plane of enjoyment), i.e. this world is created for Men and not Men for this world. Therefore, the most subtle thing that exists in this Universe out of which the creation of vibration sprouted is none other than Atma (The Soul). This Atma is consciousness, ever still, unaffected by anything. It is neither a particle nor a wave rather the cause of their existence. The Atma in one hand equates and balances the rest of the 8 causative factors. This Atma is not the subject of Ayurveda but is the focal point of Yoga Shastra. Therefore, Ayurveda and Yoga Shastra are not two sciences but are two sides of the same coin of “life”. Another theory may be proposed as such that if in a sand particle all the 9 karana Dravyas intermingle and coexist then the sand particle is said to exist in 8 simultaneous dimensions. Any alteration in any field will alter the rest dimensions too as gravitational field; magnetic field, electric field etc coexist and act on the same particle. We assume Atma to be still, conscious and witness. It is indestructible and remains ever unchanged and unaffected; the rest 8 factors combine to be called Prakriti (Nature) which is never still and ever vibrating, never conscious and the cause of each and every happening of this creation. This is like 8 hands of Devi Durga resembling 8 dimensions. Hence the theory of 9 Karana Dravyas still persists and gives knowledge and peace to the serious seekers of truth in India.

CONCLUSION

In this study it is concluded that the whole world exists in ones’ breath in form of subtle vibrations. In going through the classical texts of “Swaran Yoga” we come to know that complete knowledge and practice of this science makes a person disease free from the level of body, senses & mind. After perfection one get Samadhi means “solution of Life”. Any question then arise in the Conscious Mind automatically gets an answer from the Sub Conscious Mind itself.

If the principles of Ayurved are applied to Quantum Physics, then surely new dimensions will open up to Humanity. It is a well experienced fact that when the breathing pattern is slowed down, the mind becomes slow and concentrated. And when the mind is agitated in feelings like anger and lust then automatically the breathing rate speeds up. In a more subtle way we can say that breathing is the gross manifestation of ‘Prana’. To control this prana, one has to learn ‘Pranayam’ i.e another aspect of ‘Swaran Yoga’. This breathing undoubtedly is the ‘String of Life’ and existence. Thorough scientific studies with electronic devices are now needed to unfold new mysteries on this micro – cosmos i.e. Human Body.

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