

## To Understanding of *Vata Dosha* in Contemporary Science W.S.R. to Human Body

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### Abstract

When *Dosha*, *Dhatu* and *Mala* are in a state of equilibrium along with the wellbeing of mental status is known as the state of *Swasth*. It has been said that the *Tridosha* theory in *Ayurveda* originated from the theory of the three elements of the universe i.e. *Vata*, *Pitta* and *kapha*.

*Tridosha* are each essential to our body with their very specific set of functions like movements represent *Vata*, Bio transformations represent *Pitta* and things clogging together represent *Kapha*.

*Vata* is characterized by the mobile nature and it governs movements, communication, the flow of breath, the pulsation of the heart, all muscle contractions, cellular mobility and *Vata* is linked to creativity and flexibility.

According to *Ayurveda* the nervous system is governed by *Vata Dosha*. *Prana Vata* can be compared to the CNS. *Udana Vata* with breath and process of respiration. *Vyana Vata* is related with blood circulation and muscle activities. Based on functions the *Saman Vata* can be correlated to the ENS which governs the entire GI tract. The Lumbosacral plexus appear similar to the *Apana Vata*.

**Keywords:** Ayurveda, nervous system, tridosha, prana vata, udana vata, vyana vata, samana vata, apana vata

### Introduction

The central concept of *Ayurveda* is the theory that health exists when there is a balance between three fundamental bodily humors or *Dosha* called *Vata*, *Pitta*, *Kapha*.

In *Ayurveda*, *Dosha* is also known as the governing principles in nature. Basically, three *Dosha* are responsible for maintenance of homeostasis in the body and a state of equilibrium. *Vata* is characterized by the mobile nature of wind (air) energy. *Pitta* embodies the transformative nature of fire energy and *Kapha* reflects the binding nature of water energy.

*Vata* is the main element of among three *Dosha* which give support to the body and controls all the activities of body along with the functions of *Pitta* and *Kapha*, *Mala* and *Dhatu*. That means it motivates and controls all other *Doshas*, *Dhatu* and *Malas*.

*Vata* is responsible for the Formation, Communication and spread of *Sweda*, *Mala*, *Mutra*, *Kapha* and other biological substances in the body. Although the entire body is the dwelling of three *Dosha-Vata*, *Pitta* and *Kapha* but the prime importance has been given to *Vata* due to its capacity to move in the entire body without help of other *Doshas*.

### Panchabhautikatva

*Vayu* + *Aakash*

### Synonyms

*Maruta*, *Anil*, *Pavana*, *Samira*, *Prabhanjana*, *Matarishva*, *Sadgati* and *vasna*.

### Guna of Vata Dosha

*Vata Dosha* being a *Dravya* also shows its own attributes or qualities, with the help of which it performs its all actions or work in normal condition. These attributes are named as '*Atmarupa or Atma guna*'. *Vata* acts as a causative factor for many diseases when these attributes become abnormal.

Nevertheless, movements could be principle attribute of this *Dosha*. All other attributes are subsidiary to this critical property. The qualities of *Vata Dosha* can be described under the following headings

### Physical Properties

- **Ruksha (Dryness):** This is pathologically and clinically important property. This attribute keep balance with unctuousness of *Kapha*.
- **Seeta (Coolness):** Clinically this attribute is important as little increase in this property leads to arrest of movements. This property balances heaviness warmth of *Pitta*.
- **Laghu (Lightness):** This attribute is important as it balance heaviness of *Kapha* and little heavy property of *Pitta*.

- **Sukşama (Micro-effects/subtle):** This attribute makes this *Dosha* to reach ultimate units and spaces of internal body.
- **Chala (Mobile):** Due to this property it induces and controls all sorts of movements in living body. It is for this reason that this *Dosha* is called representative of *Chetana* principle of living body.
- **Vishada (Clean):** Just as any flowing stream keeps clean only due to continuous movements, all dirt and dust particles are flown away, due to continuous movement this *Dosha* is responsible for mechanical cleaning of various types.
- **Khara (Rough):** As polishing paper makes surfaces of objects smooth, due to rough attribute of this *Dosha*, surfaces of tissues in contract remain smooth.
- **Daruna:** Commentator *Cakrapanidutt* spells it as *Soşhanatvata*, absorption of moisture is expected.

#### Other Properties

- **Yogavahi:** Accelerator of the qualities and actions.
- **Asukari and Muhuschari:** Quick and frequent movements.
- **Achintya Veerya:** Unimaginably powerful.
- **Avyakta (Unmanifested) but Vyakta Karma (recognized by its actions):** *Tarkasamgraha*.
- **Amrutatva:** Remains constant after coming in contact with other entities.

#### Mental Qualities

- **Rajo Bahula**
- **Tiryaggah:** Moves in the oblique direction.
- **Dvigunah:** Possesses two special qualities as *Shabda* and *Sparsa*.
- Controller of the mind.

#### Prakruta Karma

All types of normal activities of the body, mind and speech, suppression of the urges (faeces, urine etc.) and maintenance of the body tissues in their normalcy and proper functioning of the sense organs are the functions of normal *Vata Dosha*. *Charaka* describes the normal function of *Vata* in detail.

*Vata Dosha* in its normal state, reflects itself in the form of *Utsaha* (enthusiasm), (normal metabolic transformation) and *Sama Mokşha* (proper elimination of excreta).

All kinds of movements are due to *Vata Dosha*. This is the reason behind calling this *Dosha* as life of any living being. All diseases are due to vitiation of this *Dosha* to an extent where a person may face death.

#### Functions of Normal Vata in Body

- (a) **Vayuhu Tantra Yantra Dhara:** *Acharya Chakrapanion Tantra* commented as *Shareer* (living body) and *Yantra* means *Shareer aavyav* (components of body). *Vata Dosha* is the organizer (*Dharana*) of basic technology of the body machine, which includes basic characteristics of any living body and exclusive characteristics for only human being. All the living things carryout seven vital processes special to only living organisms, which are called as life processes. These includes nutrition, respiration, excretion, sensitivity, movement, reproduction and growth. *Vata*, being first of the controlling systems of the body. Monitors and coordinates all the vital life processes.
- (b) It is responsible for maintaining all mechanical moves of body including reflex actions, moves based on electrical

signals like Cardiac cycle, Moves based on pressure gradient like diffusion of gases, moves based on filtration like formation of urine etc.

- (c) **Pravartaka Cheshta Naam Ucchavachan:** It includes important and unimportant; all kinds of moves.
- (d) **Niyanta Praneta Cha Manasaha:** Willing or unwilling attention is duty of *Vata*.
- (e) **Sarva Indriyanam Udhyojakaha:** *Vata* includes all organs of sense and reciprocation.
- (f) **Sarva Indriya Arthanam Abhivodha:** *Vata* perceives sensory signals conveyed through all sense organs.
- (g) **Sarva Sharir Dhatu Vyuha karaha:** To prepare architecture of body system is duty of *Vata*.
- (h) **Sandhankaraha Sharirasya:** It is responsible for synthesis of body entities.
- (i) **Pravartak Vacha:** It includes speech.
- (j) **Sameera Agnee:** It helps “Agni” alive-digestion strength.
- (k) **Kshipta Bahirmukham:** It is responsible for excretion of excreta.
- (l) **Sthula Anusrotasaam Bhetta:** It penetrates through broad and minute spaces in body.
- (m) **Karta Garbhakrutinam:** It is responsible for embryological differentiation in intrauterine life.

As long as *Vata* is working and remains in physiological condition. Non-vitiated *Vata* makes body physiology like respiration smooth, develops all body organs to their full growth and body functions are observed to go comfortably.

*Vata* in physiological condition maintains all body entities i.e. *Dosha-Dhatu-Mala* in their physiological limits and let these entities do their function without any opposition or obstruction.

When *Vata* is properly channelized, all body functions are smooth, brainwork is proficient and *Vayu* fetches such other results.

#### Common Sites of Vata Dosha

The main seat or site or location of *Vata Dosha* is *Pakvashaya*. It is the place where normal *Vata Dosha* is originated after the completion of digestion.

1. **Pakvashaya:** This is the last part of large intestine. In *Pakvashaya* region *Vata Dosha* is generated during the last stage of digestion that is *Kaṭu Avasthapaka*.
2. **Kati:** It is the waist region in the body. It is made up of union of many bones. *Asthi* or bone is also one of the *Sthana* or location of *Vata*.
3. **Sakthi:** Thighs are also a location of *Vata*.
4. **Srotra:** *Vata Dosha* is also located in ears as well as in *Srotendriya*. Basically, hearing is not possible without *Vata* as it himself does this action by giving the stimulus or inspiration to *Srotendriya*.
5. **Asthi:** *Asthi* means bones. These are *Parthiva* in nature but these are porous internally. This porosity is packed by *Majja Dhatu*.
6. **Sparsendriya:** This is the *Tvak* which covers the whole body as well as different organs. *Vata Dosha* performs the action of perception of touch-*Sparsa*, through *Sparsendriya* which is situated in the skin. According to *Ayurveda*, *Sparsa* or touch is a subject of *Sparsendriya*. Not only touch, but different sensations or feelings are also perceived by this *Indriya* only. *Vata Dosha* is controlled by daily *Abhayanga*.

*Charaka* also includes urinary bladder (*Basti*), rectum (*Purishadhanam*), and legs (*Pada*), in this list. *Kashyapa* also adds bone marrow (*Majja*) to this list.

In brief, pelvic and rectum are the sites of *Vata* and in diseases caused due to the abnormal *Vata Dosha*, *Basti* prove very helpful as they help in purifying the premier site of *Vata Dosha* and through this process the disease caused by *Vata Dosha* are relieved.

### Types of *Vata Dosha*

*Vata* is responsible for various activities in the world as well as in the body. It has been divided into five types:-

- *Prana Vayu*
- *Udana Vayu*
- *Samana Vayu*
- *Vyana Vayu*
- *Apana Vayu*

### *Prana Vayu*

*Prana* is located in the head and moves in the chest, throat. It regulates will power, heart, sense organs, intellect and vision. It is the cause for expectoration, sneezing, belching, inspiration and swallowing of food.

*Prana Vata* is considered as the force that takes care of functioning of heart, lungs and throat (swallowing, belching etc.). *Prana Vata* in a broad sense it can be compared to the CNS anatomically and physiologically as its main seat is *Murdhanya* controls almost all the physical and physiological functions by generating motor impulses after the integration of the sensory impulses from all over the body.

### *Udana Vayu*

The chest is the seat of *Udana*, it moves in the nose, umbilicus and throat; its function are initiation of speech, efforts, enthusiasm, strength, color, complexion and memory. *Udana Vata* is correlated with breath and process of respiration. Major groups of muscles that take part in speech and respiration are located in the mouth and throat and the nerve fibres supplying these areas can be correlated with *Udana Vata*. Development of speech is associated with neuro-physiological phenomenon of learning which occurs as an integrated outcome of motivation, emotion, and sensory adaptation in terms of performance of an individual. Apart from this *Ayurveda* opines that this physiological phenomenon acts through *Mana* and *Buddhi*. So, a stimulus may reach higher centres in *Mastishka* from the *kanta, uras, nabhishthana* through *Udana* because of its nature (moving upward) and as said earlier integration of stimulus is done through *Prana vata* and a motor impulse may be sent to muscles of the above said *sthana* where the movement of muscles occur due to *Vyana Vata*. Hence it is clear that *Udana Vata* performs its functions through the combined functioning of *Prana* and *Vyana Vata*.

### *Vyana Vayu*

*Vyana* is located in the heart, moves all over the body. It attends to function such as flexion and extension (locomotor action) opening and closing of the eyelids etc.

*Vyana* is related with blood circulation and muscle activities-flexion and extension. All these functions are directly or indirectly due to voluntary and involuntary movements of the muscles caused by their contraction and relaxation all over the body which can be understood by polysynaptic reflex arc with a single stimulus i.e. *Sarvavyapi* of, as said earlier one endeavors to speak or act in accordance with the guidance and incitement of *Manas* and *Buddhi*. In a broad sense motor pathway can be considered as *Vyana Vata* as it is responsible for the movement of muscles at different parts of the body to

achieve actions such as glandular secretion, movement of body parts, peristaltic movements to facilitate proper physiological functions of local *Vata* i.e. *Samana, Udana, Apana*.

### *Samana Vayu*

*Samana Vata* is located near the digestive fire. It moves in the gastro intestinal tract, it receives the food into stomach, aids in digestion, helps in dividing the food into useful part and waste part, and moves these parts in their normal paths.

*Samana Vata* activities are limited to digestive tract, assisting in normal downward peristalsis. Based on the functions *Samana Vata* can be correlated to the ENS which governs the entire GI tract. In real sense it is the sensory stimulus of ENS (*Samana Vata*) that is sent to CNS and resulting in vagal stimulation and gastrin feedback mechanism (*Prana Vata*) leading to the muscular movements, secretion of gastric juices for digestion, absorption and discrimination.

### *Apana Vayu*

*Apana Vata* is located in the *Apana*-large intestine. Moves in the waist, bladder, genitals. It attends to the functions such as ejaculation, menstruation, defecation, urination and child birth.

*Apana* maintains all excretion process related with lower half of trunk. In the action of defecation, the initiation of reflex can be described as action of *Apana Vata*. In a broad view the anatomical spread and functional aspects of lumbosacral plexus appear similar to that of the *Apana Vata*.

### Discussion

According to *Ayurveda*, *Vata Dosha* is responsible for our mental and physical adaptability. It is the energizing force of the body, mind and it governs our nervous system, our bones and our senses of touch and hearing.

When *Vata dosha* is in balance for our *Prakruti*, or constitutional nature, we are coordinated in body and mind in our response to stimulation. When our *Vata* is in balance, our breath supports our nervous system, and there is homeostasis between tissues and organs.

### Conclusion

It can be concluded that the functional field of *Vata* cannot be limited by simply comparing it with nervous system or any other system alone, as the involvement of *Vata* is inevitable in any systemic activity. So, functions of *Vata* can be partially correlated with the functions of nervous system

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