

VAYU: PHYSIOLOGICAL AND PATHOPHYSIOLOGICAL ROLE OF VATA DOSHA IN AYURVEDA

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ABSTRACT

The ancient medical system proposed concept of *Dosha* which govern bodily system. These three *Doshas* are *Pitta*, *Kapha* and *Vata*. Amongst them *Vata* is thought to be the body's primary motivator. *Vata Dosha* along with *Vayu* is essential for coordinating and controlling a variety of physiological processes. It is principally involves in the transmission and nutrition circulation inside the body, especially *via* the neurological and circulatory systems. It control of musculoskeletal movements, such as *Tiryaggamana*, *Vinamana*, *Unnamana*, *Akunchana* and *Prasarana*. It performed circulation of *Rasa* and other bodily fluids, especially *Raktha*, thus helping in the body's blood's discharge. *Vayu* controls sweat excretion and assist in the segregation of nutritive essence from waste products during digestion. Thus gaining an understanding of *Vayu* in the context of contemporary physiology provides important insights into how various body functions are interrelated. Understanding its function could help promote a more comprehensive approach to health and wellbeing which also establishes its association with *Vata Dosha*.

KEYWORDS: *Ayurveda*, *Vata Dosha*, *Vayu*, *Gati*, *Kriya*.

INTRODUCTIONS

The *Tridosha* theory is the fundamental tenet of Ayurveda, which includes three elements namely: *Vata*, *Pitta* and *Kapha*. They operate on several levels, such as the organizational, systemic and cellular levels. Since it governs and stimulates the actions of *Pitta*, *Kapha*, *Dhatus* and *Malas* the *Vata dosha* is considered as most vigorous one amongst the three *Doshas*. All cerebral functions, sensory perception, and the compactness of bodily structures are all governed by *Vata*. It supports auditory and tactile faculties and makes speaking, involve in the sound production process. *Vata* also supports absorption of nutrients, removal of waste, activation of *Agni* and governs embryonic growth, maintains the continuity of life, and moves *via* the body's subtle and gross pathways.^[1-4]

The five subcategories of *Vata/Vayu* are *Prana*, *Udana*, *Samana*, *Vyana* and *Apana vayu* as mentioned in **Figure 1**. *Vyana vayu* is thought to be the most potent of these, permeating every part of the body. *Vayu* guarantees the

circulation (*Rasa-Rakta Sambahana*) and nutrients throughout life. Since movement is essential to life, *Vyana vayu* accomplishes this by coordinating muscular contraction and relaxation, frequently in conjunction with other *Vata* subtypes.^[4-6]

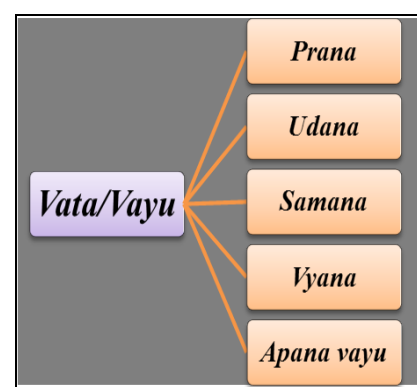


Figure 1: Five Subcategories of Vata/Vayu.

Physiological Role of Vata

Rasa dhatu, or the nutritional essence of digested food, is continuously and firmly propelled from the heart to every region of the body by *Vata*. This circulation takes place through the *Dhamanis*. By allowing *Rasa* to reenter the heart, *Samana Vayu* support in this process. All bodily tissues are nourished by *Rasa dhatu* once it has been dispersed, but the waste products of digestion (*Purisha* and *Mutra*), are expelled independently. To ensure systemic sustenance, *Vyana vata* guides the flow of *Rasa* in three directions: upward, downward and laterally. The main function of *Vyana vayu* is circulation, which happens all over the body at once and without interruption.^[5-7]

- ✓ *Prana vayu*, which is situated in the head area, controls food intake (*Annapraveshana*). By facilitating taste perception (*Anna-aswadana*), *Vyana Vayu* makes a contribution. *Prana vayu* encourages swallowing if the meal is appetizing with the support of *Vyana vayu*.
- ✓ With the help of *Udana Vayu*, *Vyana vayu* transports nutrients to the tissue level by means of its

Srotovisodhana and *Samvahana* functions. By helping to carry the nutritious essence of food throughout the body, *Vyana vayu* facilitates the *Srotoprinana* action of *Udana vayu*, which is responsible for the nourishment of the cells.

- ✓ *Samana Vayu* separates *Kitta* from the *Sara* via *Swedavaha srotas* and is evacuated with the help of *Vyana Vayu*.
- ✓ *Apana vayu* controls the production of semen and other excretory processes. However, *Vyana Vayu* regulates the voluntary component of sexual behavior. When conducting *Shukra pratipadana*, *Vyana* and *Apana vayu* work together.
- ✓ *Vyana vayu's* primary function is movement, which is accomplished by contracting and relaxing muscles.

Relationship of Various Subtypes

Since almost all *Vata*-governed actions include movement, *Vyana vayu* actively promotes and directs the activity of all other *Vata* subtypes as mentioned in **Table 1**.^[6-8]

Table 1: Relation of Vyana Vayu with other subtypes of Vata.

| Combination | Role of Other Vayu | Supportive Role of Vyana Vayu |
|----------------------------|--|--|
| <i>Vyana + Prana Vayu</i> | <i>Prana vayu</i> , located in the head, controls ingestion of food and governs functions of <i>Indriyas</i> . | <i>Vyana vayu</i> enables <i>Anna-aswadana</i> , which is essential for ingestion and facilitates the movement of sensory organs. |
| <i>Vyana + Udana Vayu</i> | <i>Udana vayu</i> performs <i>Srotopreenana</i> and regulates respiration. | <i>Vyana vayu</i> carries the nutritive essence of food throughout the body and helps in the movement required for respiration. |
| <i>Vyana + Samana Vayu</i> | <i>Samana vayu</i> , situated near <i>Agni</i> , digests food and separates essence from waste; maintains integrity of <i>Swedavaha srotas</i> . | <i>Vyana vayu</i> distributes the nutritive essence to all tissues and assists in the expulsion of sweat through <i>Swedavaha srotas</i> . |
| <i>Vyana + Apana Vayu</i> | <i>Apana vayu</i> governs excretions, particularly semen ejaculation. | <i>Vyana vayu</i> helps direct semen towards the <i>Yoni</i> during intercourse; while <i>Apana</i> controls expulsion, the voluntary act is influenced by <i>Vyana Vayu</i> . |

Vayu permeates every part of the body, it moves very quickly and support several body movements, including eyelid movements, reflex activities and contraction, relaxation, etc. Since movements like flexion, extension, and the opening and closing of the eyelids are thought to be under the control of the somatic nerve system, *Vayu* can be linked to its functions. Five different body motions relaxation, contraction, downward movement, upward movement and multidirectional movement are all governed by *Vayu*.^[7-9]

Pathophysiological Role

Vayu can cause illnesses to appear all over the body if it is vitiated. *Avarana* or obstruction is a crucial component in the pathophysiology of disease. Cardiovascular diseases result from the disruption of *Vayu's* function caused by enveloping or blocking it. The major disease associated with the dysfunctions of *Vata/Vayu* is depicted in **Table 2**.^[8-10]

Table 2: Diseases associated with Vata/Vayu.

| Category | Ayurvedic Name | Description |
|---------------------------|------------------------|------------------------------------|
| Neurological Disorders | <i>Pakshaghata</i> | Paralysis of one side of body |
| | <i>Ardita</i> | Half-face paralysis |
| | <i>Apatanaka</i> | Convulsions with unconsciousness |
| | <i>Murchha</i> | Sudden fainting |
| | <i>Bhrama</i> | Dizziness, giddiness |
| Musculoskeletal Disorders | <i>Gridhrasi</i> | Radiating pain from hip to foot |
| | <i>Manyastambha</i> | Neck stiffness |
| | <i>Sandhigata Vata</i> | Pain, swelling, cracking in joints |

| | | |
|--|-------------------------|---|
| | <i>Asthigata Vata</i> | Weak, painful bones |
| Digestive Disorders | <i>Udavarta</i> | Upward movement of <i>Vata</i> & bloating |
| | <i>Anaha</i> | Abdominal distension |
| | <i>Atopa</i> | Excess gas, belching |
| | <i>Vibandha</i> | Hard stools, irregular bowel |
| | <i>Vataja Shwasa</i> | Difficulty in breathing |
| Respiratory & Cardiac Disorders | <i>Pratamaka Shwasa</i> | Sudden acute dyspnea |
| | <i>Vataja Hridroga</i> | Palpitations, chest discomfort |

CONCLUSION

According to the *Tridosha* theory, the three primary determinants of health and illness are *Vata*, *Pitta*, and *Kapha*, with *Vata* being the most dynamic. *Vyana Vayu* support muscular action, reflexes, circulation, systemic feeding and coordination with other *Vata* subtypes. With its roots in the heart and extending throughout the body, it maintains life processes, combines respiration, sensory perception, excretion, and reproduction, and guarantees the unbroken distribution of *Rasa* and *Rakta*. Therefore, systemic illnesses, particularly cardiovascular and neuromuscular problems, might arise from disruption of *Vayu*. Its equilibrium is seen in Ayurveda as essential for sustaining vitality and upholding general physiological harmony.

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