Physiological Concept of Vata Dosha in Relation to Autonomic Nervous System

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ABSTRACT

The name Ayurveda means "Knowledge of Life." Alternative medicine used from ancient times in the Indian subcontinent is known as ayurveda. The roots of our body are Dosa, Dhatu, and Mala. They are known as Dhatu because they maintain our body's homeostasis and keep it functioning normally. They are referred to as Dosa when there is an imbalance (increase or reduction). The biological forces known as doshas operate through the use of malas and dhatus. The structural elements are the dhatus and malas, and the energy forms are the Doshas. To reach the intended organ throughout the body, the Vata must pass via the VataVahaSrotas. These channels are split into two categories based on whether they serve motor or sensory purposes. Every Ayurvedic idea is predicated on and defined in terms of the Panchmahabhutas; the Doshas stand in for the Panchmahabhutas physical presence in our bodies. And everything in the universe is Panchmahabhautika. One of the three basic Humours, Vata, has a significant impact on both health and sickness. The majority of the Vata disorders mentioned in Ayurveda are classified by current science as neurological ailments. We must thus comprehend the physiological concept of Vata in this study with particular reference to the neurological system.

KEYWORDS - Ayurveda, Vata, Nervous system, Humors, Paraná, ANS.

INTRODUCTION

The basis for all Ayurvedic principles related to physiology, pathology, diagnosis, prognosis, medicine, and therapeutics is the three-fold management system known as Tridosha theory, which consists of Vata, Pitta, and Kapha Dosas. Different physiological and physical aspects represent each Dosa. In essence, Vata, Pitta, and Kapha are three regulatory systems that regulate input/output, turn over, and storage, respectively. This makes them common characteristics of all living systems Vata is unquestionably the most essential and important dosha for survival out of the three. The fundamental terms Gati (movement) and Gandhana are combined to form the word Vata (senses) Vata dosha is Daruna (with severe consequences), Bahu-Ighra, and Anavasthita, just as nerve impulses instantly transmit information from one bodily area to another (constantly moving). Vata is the primary force underlying normal sensory and motor functions for survival and maintenance of normal health (homeostasis). Notably, impaired Vata Dosha is directly correlated with serious neurological disorders. Therefore,
Ayurvedic texts provide a firm basis for a physiological and functional link between \textit{Vata Dosha} and the nervous system. 

Ayurveda connects a balanced \textit{Vata Dosha} with processes controlling homeostasis and fundamental survival. As a result, the terms "\textit{Aashukari}" and "\textit{Pranamscha Uparunadhi}" denote the harmful effects of defective \textit{Vata Dosha} and suggest that a healthy amount of \textit{Vata Dosha} is necessary for living.\textsuperscript{v}

Similar to this, normalcy is maintained by the "\textit{Tantra Yantra Dhara}" or "homeostatic" actions of the \textit{Vata Dosha}. The ANS regulates survival and homeostasis unconsciously ('automatically'), without our conscious effort. The circulatory, gastrointestinal, excretory, and reproductive systems are all controlled by the ANS. With few exceptions, the sympathetic and parasympathetic parts of the autonomic nervous system (ANS) respectively switch "on" and "off" these critical activities.\textsuperscript{vi}

**RELATION OF AUTONOMIC NERVOUS SYSTEM WITH VATA SUB-TYPES**

\textbf{PRANAVATA}– \textit{Praana Vata} controls the necessary for survival defensive responses. As a result, \textit{Praana Vata} is linked to the ANS's involuntary survival mechanisms (pupil response, sneezing, swallowing, and vomiting). \textit{Praana Vata} regulates breathing, heart rate, and blood pressure via stabilising cardiac functions and circulation. Diseases of the upper respiratory tract, the cardiovascular system, and death are all caused by impaired \textit{Praana Vata}.\textsuperscript{vii} When viewed in its entirety, \textit{Vata} performs two types of functions:

Higher brain processes, such as prana \textit{Vata}, which directs the intellect, mind, sense organs and their operations, and awareness, are governed by these forces. When the \textit{Prana Vata} is active in the brain, it performs certain \textit{Prana Vata} functions.

Lower functions outside of the brain include those connected to the salivary glands, such as spitting or creating oral secretions, the nasal mucosa, such as sneezing, the gastric system, such as food ingestion and stomach reception, and the pharynx, such as belching and chest motions. These processes take place when \textit{Prana Vata} is moving and circulating in other body regions, such as the chest and neck.

\textbf{UDAANAVATA} – \textit{Udaana Vata} governs the intellect, speech, and vitality in the chest. Since healthy cardiac and respiratory systems are necessary for strength and speech. \textit{Udaana Vata} aids in maintaining homeostasis by controlling breathing and heart rate. Production of speech is synchronized by audio-sensory, audio-psychic and audio-motor centers of cerebral cortex. Impaired \textit{Udaana Vata} results in speech difficulties, memory deficits, and altered sensory perception.

\textbf{VYANAVATA}– \textit{Vyana Vata} regulates willpower and is necessary for the circulation of peripheral blood, it is crucial to the development of rasa \textit{Samvahan} (peripheral circulation). The \textit{Vata} known as \textit{Vyana} is thought to be quite strong (\textit{Mahjava}). With this ability, this \textit{Vatasub} type maintains continuous, uninterrupted circulation of rasa tissue throughout life. One of the main purposes of \textit{Vyana Vata}, according to \textit{Sushruta} and \textit{Vagbhata}, is the ejaculation of semen during coitus. By considering the entire explanation provided above, the heart's conduction system and vasomotor nerve system can be directly compared to the functions of \textit{Vyana Vata}.

\textbf{SAMANVATA}– Gastrointestinal functions are constituted by \textit{Samana} and \textit{Apana Vata}. \textit{Samana Vata} is mentioned by \textit{Susruta} as the foundation for \textit{Viveka} (digestion, absorption and segregation of waste).
Samana Vata has a significant impact on digestion since the ANS regulates it. Reduced digestive ability and gastrointestinal motility are brought on by Samana Vata impairment. In the alimentary tract, close to the digestive system, the Samana Vata is frequently compared to the Auerbach's plexus of nerves, which constitutes the main nerve supply to the gastrointestinal tract. Between the muscularis externa inner circular and outer longitudinal layers is where this plexus is situated. These nerve cells are a component of the enteric nervous system that causes peristaltic motions. Its alternate name is myenteric plexus. They are a component of the autonomic nervous system.

APANAVATA – Dharana (controller of natural urges/excretory reaction) is attributed to Apana Vata. Autonomic pelvic reflexes necessary for urination and sexual activity are an Apana Vata trait. Impairment of Apana Vata leads to diseases of the lower gastrointestinal and genitourinary tracts. Defecation reflex, micturition reflex, foetal ejection reflex, menstruation etc may be associated to Apana Vata functions.

DISCUSSION

Fundamentally, Vata, Pitta, and Kapha make up the neurological, endocrine, and immunological systems—respectively—of all living systems. Acharyas provide an explanation of Vata's dominance over the other Tridoshas. The natural pacemaker from which all activities are started and managed is Vata. It is the fundamental component of humour that governs all bodily functions. Movement, communication, transportation, breathing, circulation, excretion, and thought are all governed by the primary force of Vata.

In living cells, Vata regulates communication, motility, and transportation. It controls how molecules travel within biological structures. It also regulates how the body moves. Nerve impulses from the brain to other bodily parts and from organs to the brain are influenced by Vata. Without VATA, cellular division is not possible. It is necessary for tissue development and cellular organisation. To combine Kapha molecules and cells into tissues, it brings them together. Vata therefore plays a more significant role in the body.

CONCLUSION

The nervous system is the functional seat of Vata, according to the study mentioned above. Vata's effects and the neurological system's effects are somewhat related. To make the connection, it is vital to comprehend the nature of the organ. It should be noted that the neurological system, an important location for Vata, has properties that are the opposite of Vata, with Vayu and Akasha Mahabhuta predominating. Despite the nerve tissue's 70–80% water content, the main characteristic is the high cholesterol and phosphorus lipid content, as opposed to the white matter's higher lipid concentration. It is obvious that substances with properties that are the opposite of those stated for Vata, i.e., Ruska Guna, enter into the construction of the structures that are fundamental to the manifestation of this somatic humour. Additionally, more investigation is required to thoroughly assess the increase and decline phases of Vata in both physiological and pathological aspects for the benefit of humanity. Vata has its primary seat in the nervous system, which also serves as the conduit for its two primary roles—the motor and sensory functions.
To go to the desired organ throughout the body, the *Vata* must pass via the *Vatavaha Srotas*. They carry out the motor activities that started in the brain and ended up in the connective tissues or other muscles. The cognitive organs follow sensory processes all the way to the corresponding Buddhi. Because the conative and cognitive organs' functions extend to the mind, the mind is the controller of all sensory organs; both of these channels travel through the mind. Therefore, the *Vata* is the source of all bodily functions.

**REFERENCES**


