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A CRITICAL REVIEW OF SAMANA VAYU IN MODERN PERSPECTIVE

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ABSTRACT

The holistic science of life is Ayurveda. For the body to operate normally, the Tridosh must be perfectly balanced. Since *Vata* is the most important of them, it governs and controls the body's functions. For this reason, Acharya Sushruta has named Vayu "*Swayambhu*," which describes the significance of *Vata* among the Tridoshas.[1] One of the five Vata kinds, Saman Vayu, is located closer to the *Jatharagni* and is thought to provide it power. The main *Saman Vayu* location is close to *Jathragni*, and *Koshta* is its operational region. It is incharge of *munchan* (ejecting waste), *sara and kitta vivechan* (digestion and absorption), and *grahan* and *pachan* (motality and secretion). Current science states that the ENS is in charge of regulating all of the GIT's secretions and motions. It is the gut's most significant local control system. The enteric system, sometimes referred to as the "mini brain of the gut," has over 100 million neurons, which is almost as many as the entire spinal cord. A partial correlation exists between the function of *Samana Vayu* and the autonomic nervous system's sympathetic and parasympathetic nervous systems as well as the enteric nervous system.

KEYWORD: *Saman vayu*, ENS, *Agni Dushti*, *Prana vayu*.

INTRODUCTION

As the primary philosophy pertaining to health and illness, Ayurveda discusses the ideas of Dosha (Vata, Pitta, and Kapha). The *Vata Dosha* is a crucial dosha that controls all forms of movement, mental processes, compacts the body, encourages speech and feeling, and is in

charge of several other physiological processes.[2] *Prana Vayu, Udana Vayu, Samana Vayu, Vyana Vayu, and Apana Vayu* are among the various varieties of Vata Dosha. Every one of these five Vata Doshas has a unique location and function.

Samana Vata performs a variety of roles at varying levels among these. Also, *Prana Vayu, Vyana Vayu, and Apana Vayu* assist it in carrying out its duties. These Vata appropriately collaborate and coordinate with one another to carry out physiological processes. The fundamental idea of treating any disease is to restore and improve Agnidushti, as Ayurveda emphasizes that the majority of ailments are byproducts of Agnidushti. Agni is promoted by saman vayu, but when saman vayu is vitiated, it also vitiates agni, which leads to diseases associated with *Agnisad*. In addition to preserving enteric homeostasis, ENS also modulates the actions of the gut barrier. A number of digestive juices work on the meal once it reaches the stomach. Pancreatic and gastric juices both contain vital digesting enzymes that have an impact on food. The intrinsic and extrinsic enteric neural systems primarily regulate this enzyme's secretion.

AIM

To explore the concept of *Saman vayu* and to find out its correlation with modern science.

MATERIAL AND METHOD

Available Ayurved texts like *Charak Samhita, Sushruta Samhita, Ashtanga* etc., reviewed research articles, research papers, and authenticated internet sources.

REVIEW OF LITRATURE

"Samanthad Koshte Samyak Samam Vaa Aniti Iti Samanah" is what the term "*Samana"* means, and it means that everything we eat is equal to one.[3] The one that plays a part in digestion and is situated close to Agni is *Samana Vayu*. Though there are differing views regarding *Samana Vayu's* location and role, practically all Acharyas have stated that *Saman Vayu* lives closer to the *Jatharagni* and gives it strength. The digestive fire is greatly enhanced by it as it moves through the *Koshtha*.

Location

The sthana (Location) of saman vayu according to different author are as follows:

Samhita	Charak Samhita[4]	Sushrut Samhita[5]	Ashtang Samgrah[6]	Ashtang Hrudya[7]	Shrangdhar Samhita[8]	Bhavprakash[9]
Location	Near *Swedavaha, Doshavaha and Ambuvaha Srotas*	Moves in between *Aamashaya and Pakvashaya,*	*Kostha,* near the *Agni* circulates Dosha, *Mala, Shukra and Artava Vahi Srotas*	Near to jathragni, and travel within the Koshta	*Nabhi*	*Koshta, Nabhi, beside Agni*

Function: The main function of Saman Vayu is to provide strength to the Jatharagni, thus making the process of digestion an easy one. The overall functioning of Saman Vayu according to different acharya can be described as:

1. Charak Samhita: Assisting and Giving Strength to *Antragni*.[10]
2. Shushrut Samhita: Does digestion And segregation of *aahara*.[11]
3. Ashtang Hrudya: Does *Annam Gruhnati, Pachati, Vivechayati, Munchati*.[12]
4. Ashtang Samgraha: Holds food in the GI tract, digestion of food, separate into absorbable and non- absorbable portion and sends it further in the lower part of the intestine.[13]
5. Sharangdhar Samhita: Assists blood circulation.[14]
6. Bhavprakash Samhita: Digests and transports the food to the duodenum and separates its products.[15]

Enteric nervous system

The Gastrointesstinal tract has a nervous all its own called enteric nervous system, it present entirely in gut starting in oesophagus and extending all the way to the anus. the number of neuron present in ENS is about 100 million. Almost exactly equal to the number in the entire spinal cord.

A) Intrinsic innervation

It is further divided into two: myenteric and Meissner's plexus

1) Myentric plexus or auerbach's Plexus: it lies in between longitudinal and circular layer. and control mainly the gastrointestinal movement with motor function.

2) Meissner's plexus or submucosal plexus: it lies in submucosa and control mainly gastrointestinal secretion and local blood flow, with sensory function.

Both the plexuses are interconnected and are extrinsic autonomic nerves control, by both parasymphthetic and symphathetic nerve fibers.

B) Extrinsic innervation

This is under the autonomic nervous control i.e. parasympathetic and sympathetic nerve fibers.

1. Parasympathatic nerve, release acetylcholine at their ending and by depolarization of smooth muscle membrane produce contraction of GIT musculature. It is supplied by the cranial (vagus) and sacral (2^{nd}, 3^{rd}, and 4^{th}) division.

Stimulation of parasympathetic nerve to GIT produces

1. Increses in motality and tone
2. Relaxation of spincters
3. Increased secretion from the stomache and the intestine.

Symphathetic nerve, release epinephrine at their ending which by hyperpolarization of smooth muscle membrane result in relaxation of GIT musculature. It is supplied by T5 and L2.

Stimulation of sympathetic nerve to GIT produces

1. Decreases in motality and tone
2. Contraction of spincteres.[16]

DISCUSSION

This article's primary goal is to develop a functional relationship between *Saman Vayu* and ENS; thus, it has been developed by taking into account Saman Vayu's four functions: *Annam Gruhati, Pachati, Vivechyati, and Munchati.*

Annam Grahana: The gastrointestinal system is used to receive and withhold food. *Prana Vayu* controls how much food is initially consumed and stored in the digestive tract (*Anna Grahana*). In order to facilitate this, *Samana Vayu* works in tandem with Prana Vayu's receiving function. However, *Prana Vayu's* Karma is mostly *Anna Grahan*. It has also been suggested by Acharya Vagbhat for *Saman Vayu*.[17] Food is carried into the stomach from the pharynx by the oesophagus. This is caused by the two peristaltic wave types that the oesophagus exhibits. In roughly five to ten seconds, the main peristaltic wave travels from the throat to the stomach. Via the myenteric plexus, the vagus regulates the oesophageal

peristalsis. However, the retained food causes the oesophagus to dilate if the bolus is not emptied by the first wave. This starts the second peristaltic wave, which aids in the stomach's food emptying.[18]

***Annam Pachana*:** Saman Vayu activates the *Jatharagni*, which is located beneath the Amashaya in Grahani and facilitates food digestion.[19] The *Pachak Pitta*, also referred to as the Agni itself, is stimulated by *Saman Vayu*. *Saman Vayu* collaborates with *Kledak Kapha* and *Pachak Pitta*. It gives the *Jatharagni* strength. Our digestive system contains a variety of liquids and enzymes that aid in digestion. For instance, the pepsin enzyme aids in the digestion of protein, while the primary purpose of gastric juice is to render eaten microbes inactive. Pancreatic juice breakdown of fat, carbohydrate, and protein. The secretin enzyme suppresses the production of gastric acid while stimulating the production of pepsin, pancreatic bicarbonate, and biliary bicarbonate. The enzyme pepsinogen, which is converted into pepsin for the digestion of proteins, etc. which is regulated by the Meissner's or submucosal plexus, while the parasympathetic and sympathetic nervous systems stimulate and suppress its activity.

Annam Vivechana: Following the *Pachan process, saman v*ayu separates the digested material into *saara and kitta bhag*. *Saara bhaag* is used as needed by the body, while *kitta bhaag* is ejected from it. according to contemporary science Food is transferred to the body's organs after it has been digested. Vitamins, minerals, and smaller absorbable units of lipids, proteins, and complex carbohydrates are the minute essence of food that is absorbed by the intestinal wall. This is carried out into the intestines' local blood flow. The osmosis mechanism is used to absorb the chyme's watery component. The Meissner's plexus regulates all of this physiology.

***Annam Munchana*:** *Munchan* basically means to push out the waste material. In the context of Saman Vayu, it is explained in the Sarvangsundara teeka of Ashtang Hrudya as it pushes the *Mutra and Purish* downward.[20] Apana Vata controls the removal of waste products, such as urine and feces, and it is believed that *Samana Vata* plays a supporting role by starting *Apana Vata's* function for expulsion. This coordinated activity between the two Vata's helps to remove waste from the body. Moreover, Samana Vata is believed to be involved in starting the micturition and defecation reflexes.

CONCLUSION

The enteric nervous system (ENS) and Saman Vayu share a close functional relationship, as both play crucial roles in regulating digestion and maintaining gut health. The ENS, often called the "second brain," autonomously controls gastrointestinal functions, including peristalsis, enzyme secretion, and nutrient absorption. Similarly, *Saman Vayu*, one of the five subdivisions of Vayu in Ayurveda, governs the digestive fire (Agni) by balancing the assimilation and distribution of nutrients within the body. Hence *samana Vayu* can be mainly correlated with the nervous regulation of the gastrointestinal tract, including the enteric nervous system, gastrointestinal reflexes, and gastrointestinal hormonal regulation. Paracrine hormones stimulated by the enteric nervous system can also be understood as functions of *Samana Vayu* to some extent.

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