

“Samatva” – The Ayurvedic View Point of Homeostasis: A Narrative Review

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Abstract

Ayurveda is the science of life in the genuine meaning of the term, as it elaborates on each and every facet of one's existence that would finally lead to "deergajeevana," or liberation from one's limitations (long lifespan). Even in ancient times, long lifespans were thought to be an indication of good health, and this has continued to be the case in the present day as well. The attainment of moksha is also related with a longer life expectancy, as stated by Charaka in his statement "dharmarthakama mokshanam aarogyam moolam utamam." As defined by Sushruta, the meaning of Swasthya is the state of equilibrium between the dosha, agni, dhatu, mala and their kriyas (energy patterns). It is essential for the preservation of Samyogvahitva that the concepts of Samanya – Veshesha, Shatkriya Kala, and Ashraya – Ashrayee Bhava are understood and practiced. Even though the phrase 'Milieu Interieur' was coined in the early nineteenth century, it had been very clearly discussed in Ayurvedic classics for centuries before that under the term 'Samyogvahi' in the Charak Samhita (BC 2nd century).

Keywords: *Homeostasis, Samyogavahi, Dosha-Dhatu-Mala, Agni, Wellness, Prevention, Swastha*

INTRODUCTION

Ayurveda is the science of life in its true sense as it truly elaborates each and every aspect of life and mentions the way of living life which will eventually lead to “deergajeevana” (long lifespan).[1] Long lifespan has always been considered as measure of Arogya (healthy life), be it in ancient times or the modern times. Even the country’s development is based on various statistics like life span, morbidity rate; mortality rate etc. [2-3] Longer lifespan is also associated with moksha as charaka has clearly mentions “dharmarthakamamokshanam arogyam moolam utamam”. [4] This clearly proves how important it is to have longer and disease free lifespan.

Sushruta, while explaining about shareer says “Dosha Dhatu Mala Mulam Hi Shareeram”. [5] Tridoshas , Saptadhatu, and Mala are the basic theories on which the whole Ayurveda is based on as these are the crucial elements which make up the Shaareer. These crucial elements are supposed to be in Samayoga (equilibrium) to maintain the health of the individual. “Ayuh” and “Veda” – Ayurveda is called so because it gives exclusive importance to maintain these elements (Dosha, Dhatu, Mala) and thus maintaining Swaasthya of Swastha Purusha, this is exactly the

primary Prayojana (motive) of Ayurveda Shastra.[6]

The branch of Ayurveda Science that deals with physiology of how these elements contribute in maintaining health is Kriya-Shareer [7] while the branch of Ayurveda science that deals with all the aspects which helps to maintain the health of an individual comes under Swasthavritta.[8]

The definition of Swasthya as explained by Sushruta is the Sama or equilibrium of Dosha, Agni, Dhatu, Mala and their Kriyas not only this the mental aspect is also given importance as Prasanna-Atmendriyamanah” – content/ satisfied Mana, Atma ,Indriya.[9]

Tridosha are functional illustratives of the Panchamahabhutas and are in full position to vitiate the Dhatu and Mala. Tridosha are also known as Dhatu as they support the body in its normal states. The term Dhatu is also used as synonym of Dosha because they help in holding up and supporting the body. The way roots of the plants are important the same way Tridoshas (Dhatu, Mala) are important to Shareer. Thus, Arogya and Anarogyata is dependent very much on these elements only.

Concept of Samyogvahi

The crucial term Samyogavahi is very important when it comes to Shareera as Shareera is the seat of all the elements (Dosha, Dhatu, Mala) in terms of Panchamahabhutas along with the Chetana Dhatu. The concept of Samyogvahi is foremost important for Shareer as it symbolizes homeostasis of the body. Homeostasis is the tendency towards a relatively stable equilibrium between interdependent elements, especially as maintained by physiological processes very much similarly the combination of the Dosha, Dhatus, Mala in proper manner is known as Samayogvahi. Samyogvahi is the observation of coordination between different body elements.

This coordination of the constituents is needed to be maintained in combination such that there are no diseases caused. Homeostasis if not maintained there is either Vruddhi or Kshaya of the Doshas/Dhatus/Mala which results in different diseases thus to keep body away from diseases this homeostasis is needed to be maintained. [10] Some of the disease condition may also give rise to a condition that is very difficult to manage and such conditions are described as 'Asamayogvahi' which can be life threatening as disease progresses.

Therefore, the coordination of these element viz. dosha, dhatu, mala is very important to maintain the internal environment of the Shareera.

Importance of Guna, Karma and Dravya – Samanya and Vishesha - of Dosha, Dhatu and Mala

To maintain these elements it is very crucial to understand how these elements work and for that studying Gunas of these elements is essential. Gunas can be rightly described as the characteristic by which one gets attracted or captivated towards an object. [11]

Guna and Dravya go hand in hand they are inseparable and are inherent of each other. Guna possesses Samavaysambandh with Dravya. These Gunas of Doshas Dhatus and Malas are the determining factors of the various bodily functions in the body and also maintaining them in balanced state. [12]

To maintain these Gunas in balance state another very pivotal principal comes into action that is Samanya- Vishesha Siddhanta. The term Samanya suggests similarity or uniformity or homogenous entity in substances on the other hand Vishesha implies to dissimilarity or non-uniformity or heterogenous entity. [13]

All the Dosha get aggravated with the Gunas similar to its own Gunas and relieved with opposite qualities Samanya-Vishesha Sidhant comprises of three aspects Dravya Samanya- Vishesha, Guna Samanya-Vishesha, Karma Samanya-Vishesha [13]

SAMANYA:

Dravya Samanya:

Under this concept it states that when the Administration of Dravya having similar properties will increase similar Dravya in the body, here Dravyas are the substances having similar properties to the either the elements (Dosha, Dhatu, Mala) or Panchamahabhutas like as consuming flesh increases Mamsa Dhatu in body, consuming fatty acid substances increases Meda Dhatu in body . For example: [13]

1. if there is Atiyoga of the Virechana is is mentioned in classics that there will be bleeding through Guda (anal region) causing Khsaya of Rakta Dhatu in such conditions the administration of fresh blood of deer or cow is mentioned thus increasing the Rakta Dhatu.
2. The Majja Dhatu increases the Majja as well as the subsequent Dhatus that are formed after Majja as well as elements similar to Majja.

3. Chicken bone soup contains rich amount of Majja (bone marrow) which on consumption will cause the Vruddhi (increament) of Majja Dhatu, strengthens the Shukra Dhatu, increases Medo Dhatu and Rasa Dhatu and Kapha Dosha.

Guna:

Similarly the concept of the Samyoga can be applied to the “Guna” if two substances are similar in terms of Guna causes the increment of each other or it can be rightly explained as when the Dravya having Gunas or properties similar to one of the elements in the body (Dohsa, Dhatus Or Panchamahabhutas) is administered will causes their increment of those attributes in the body. For example: [13]

1. Katu, Tikta, Kashaya, Ruksha, Laghu, Sheetadravya when administered casuses Vatavrudhi condition.
2. In the condition of Pitta Kshaya the administration of Amla, Lavana, Katu, Kshara, Ushna, Tikshanadravya can be done which causes Pitta Vruddhi.
3. Similarly the administration of Snigdha, Guru, Madhura, Sandra For Mutravrudhi administration of Mutrala Dravyas like Ikshurasa having

the properties Drava, Madhura, Amla, Lavana, Rasa Dravya is useful.

4. Khseera will increase Kapha due to its similar qualities like Snigdhadi Gunas.

Karma Samanya:

In the same context some of the Karmas or actions that we do also produces certain effects which are similar to some of the attributes in the body and thus results in the increment of that particular attribute or element in the body.

In short similar Gunas will be increased by the similar actions done by the body or by the drug over the body. These Karmas can be Kayik, Manasika, Vachika.

For example: [13]

1. Kayika Karma- running, fasting, floating will increase Vata because of Chala Guna Samanayta in Vata and these Kayika Karmas. Similarly Sleep, laziness will increase Kapha due to Sthiratva Guna similarity.
2. Vachika Karma- excessive talking, excessive studying, singing will increase Vata .
3. Mansika Karma like excessive thinking, sorrow, fear will increase

Vata . similarly Karmas like Santapa, anger, envy will increase Pitta due the Tikshna Guna similarity .

Vishesha

Dravya Vishesha:

Administration of dissimilar Dravyas or the Dravyas which act as the antagonist to the various attributes will cause the decrease in that particular attribute or element (Dosha, Dhatu, Mala, Panchamahabhuta) in the body. Example, [13]

1. Application/administration of oil will have an antagonist effect on Vata.
2. Administration of Madhu will have antagonist effect on kapha.

Guna Vishesha:

Certain Gunas are dissimilar to the attributes or elements in the body which reduces Guna over that element and overall body. For example: [13]

1. Snigdha, Sheeta, Guru, Mand Guna Dravya increases the Kapha but decreases Vata and similarly the opposite Gunas like Laghu, Ruksha, Ushna, Tikshna will increase the Vata and pacifies Kapha .

2. Godhuma has properties like Snigdha , Guru, Guna which will pacify the Vata due to dissimilar properties.
3. Yava has Sheeta Guna that will pacify Pitta. Kulatha with its Ushna Veerya will pacify Kapha having Sheeta Guna due to dissimilarity in their Gunas

Karma Visesh:

Certain actions which have antagonist effect on the body because of dissimilar properties by acting opposite activities will decrease respective Gunas in body. For example: [13]

1. Vaman is indicated in treatment of Chhardi Vega-dharnajanya Vikara.
2. Maithunam is indicated in treatment of Sukra Vega-Dharanajanya diseases.
3. Swapna is directed in Nidra Vegadharnajanya Vikara.
4. In Prameha where “Asya Sukham Swapna Sukham” – sedentary lifestyle is considered as the main Nidaana, physiccally activities are indicated.

In short

1. If there is an increase in Rukshaguna of Vata , to manage it or to bring it back to Samatva, physician has to

prescribe Snigdhaguna Pradhana Aushada (medicine) Ahara (food) and Vihara (activities) .

2. Similarly if there is a patient of emaciation there is decrease in Kapha, Meda, Mamsa etc. the physician will advice the Aushada , Ahara, Vihara similar to the Kapha, Mamsa, Meda etc. to increase these elements in the body.

It is nothing but an attempt to maintain the internal environment of the body at constant which is described by ‘Samyogvahi’ by Acharya Charak and can be fairly co-related with ‘Milieu Interieur’ concept of great biologist Lord Barnard.

Shatkriyakala and Samyogavahitva:

In Shatkriyakala as described by Acharya Vagbhatta, there are conditions like Sanchaya, Prakopa, Prasara which are related to the Samyogvahitva of Doshas. Certain types of activities, and food preparations have been described which will help in maintaining the Samyoga of the Doshas, Dhatus and Malas even when the external environmental factors are affecting them. [14]

In the Rutus like Varsha, Sharad, Hemant there is subsequent increase in Bala due to

its qualities of Snigdha Guna, Madhura Rasa, and Soma Guna etc. implying the Samanya Siddhanta. Similarly, the period of Adana Kala the Bala gradually decreases in the Rutus of Sishira, Vasanta, Grishma therefore application of Vishesh Siddhanth is needed so that the Bala can be maintained. [15]

Samayogvahitva and Ashraya – Ashrayee Bhava in the Shareera

Another crucial concept of maintaining the Samyogvahitva of Dosha Dhatu Mala is the Ashray- Ashrayee Bhava. According to this concept some of Doshas and Dhatus have attributes similar to each other as

they have their seat in them. There are total seven Dhatus and these are the seats (Ashrays) of the Doshas. Therefore these Dhatus are Ashrayas and the Tridosha are the Ashhrayee. The accumulation of the Ashrayas is as a result of accumulation of Ashrayees and reduction of Ashrayas is a result of reduction of Ashrayees. [16]

Exception for Ashray- Ashrayee rule

This rule does not apply to Vata and its Asraya Asthi. The increase of Vata leads to the decrease of Asthi and decrease of Vata to increase of Asthi. [16]

Table:-1

S. No.	<i>Ashraya Bhava</i>	<i>Ashreyee Bhava</i>
1.	<i>Asthi – Prithvi + Vayu</i>	<i>Vata – Vayu + Akaash</i>
2.	<i>Rasa – Aap</i> <i>Rakta – Tej + Aap</i> <i>Sweda – Aap</i> <i>Lasika – Aap</i>	<i>Pitta – Agni</i>
3.	<i>Rasa – Aap</i> <i>Mamsa – Prithvi</i> <i>Meda – Aap + Prithvi</i> <i>Majja – Aap</i> <i>Shukra – Aap</i> <i>Mutra – Aap + Agni</i> <i>Purisha – Agni + Vayu + Prithvi</i>	<i>Kapha – Prithivi + Aap</i>

Concept of Homeostasis

In the early 19th century when the modern medical science was gaining its importance a great biologist Claude Bernard came up with the concept of 'Homeostasis' and the importance of internal environment. "Homeostasis" denotes to the maintenance of constant internal environment of the body. [17]

This concept of a constant internal environment (milieu intérieur) was expanded by the American Physiologist, Walter Cannon (1871–1945). [17] The internal environment of human being is very important and there is physiological limit in which this environment must come under. The normalcy of human health depends upon this internal environment. If the internal environment is maintained and is within the physiological limits the person is said to be healthy and if the internal environment is not maintained and is deviated beyond the set limits, the body suffers from various malfunction or dysfunction or diseases. [18]

To maintain this homeostasis the body must be able to recognize whenever there is deviation in the internal environment in terms of physiological activity in the body beyond its normal range occurs. There are certain receptors and sensors in the body

that helps in recognizing the deviation that might occur and their function is to alert the concerned integrating center instantly so that the homeostasis is maintained. The function of this integrating center is to immediately send the information to the concerned effectors which either to accelerate or inhibit the activity so that normalcy is restored. [18]

There are two types of feedback mechanisms which help to carry out this homeostasis:

- 1) Negative feedback Mechanism
- 2) Positive feedback Mechanism

1) Negative feedback Mechanism

In this type of mechanism the effectors after receiving message send negative signals back to the system and this system now stabilizes the function of its own and tries to maintain the homeostasis. Here deceleration occurs. [18-19]

There are many examples of negative feedback mechanism in the body For example, thyroid stimulating hormone (TSH) released from pituitary gland under the control of hypothalamus stimulates thyroid gland to secrete thyroxin. When there is increase in levels of thyroxin in the blood, it causes the inhibition of the secretion of thyroxin from thyroid gland.

In the same way, if thyroxin secretion is less, thyroid gland is stimulated to secrete thyroxin.

2) Positive feedback Mechanism

This can be called as acceleration mechanism as this mechanism brings the homeostasis back to normalcy by the action of acceleration of the deviation or change. Positive feedback mechanism has fewer functions as compared to those of negative feedback mechanism. During the process of coagulation of blood the Positive feedback Mechanism occurs.

Blood coagulation is an important aspect for the arrest of bleeding during injury. Other than this Positive feedback mechanism also occurs in milk ejection reflex. [18-19]

2. DISCUSSION

Comparing Samyogvahitva and Homeostasis

Acharya Sushruta has explained that whenever there is the reduction in Dosha Dhatu and Mala the person starts craving or desiring for certain kind of foods or drinks or activities which are agonist to the Doshas, Dhatu and Mala which are reduced in the body so that the Samyogitva is maintained.

A very interesting example cited by Acharya Sushruta is that when a person feels hungry (Vata rises), the desire for food decreases as soon as they nourish themselves with food (Kapha).

Vata can be correlated to the homeostatic system in the body as it acts through self-regulatory devices. The Vata can be assumed as the phenomenon of nerve impulse as it has its seat in being Mastishka and Vatavahnadis. The most crucial qualities of Vata are immortality (Amurta), instability (Anavasthitatva), Self originated (Swayambhu), Minute (Sukshma) which helps in the feedback mechanism and the internal environment back to normal level.

CONCLUSION

1. Although the concept of the term 'Milieu Interieur' came into light in the early 19th century but it was very well explained in Ayurveda classics way before under the term of 'Samyogvahi' in Charak Samhita (BC 2nd century).
2. Concept of Samanya – Veshesha, Shatkriya-Kala, and Ashraya - Ashrayee Bhava play a crucial role for the maintenance of Samyogvahitva.

3. The Ashraya- Ashrayee Bhava of Vata and Asthi and the concept Visheshha can be called as negative feedback mechanism as it causes deceleration
4. The Ashraya- Ashrayee bhava of Pitta and Kapha with their respective Ashraya and the concept of Samanya Sidhanta are the examples of Positive feedback mechanism as it causes Acceleration.

CONFLICT OF INTEREST:

Authors Declare no Conflict of Interest

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