

A REVIEW ON HOMEOSTASIS IN AYURVEDA

¹*Dr. Piyush Versha and ²Dr. Shaveta Sawhney^{1,2}Assistant Professor, Dept. of Kriya Sharir; Patanjali Ayurvedigyan Evam Anusandhan
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Corresponding Author*Dr. Piyush Versha**Assistant Professor, Dept. of
Kriya Sharir; Patanjali
Ayurvedigyan Evam
Anusandhan Sansthan,
Haridwar, Uttarakhand.**ABSTRACT**

In *Ayurveda* equilibrium state of *Dosa*, *Dhatu*, *Mala* and *Agni* are considered as healthy state of an individual. Homeostasis of an individual also represents his / her healthy state. Unbalanced state of all these are considered as pathological state or disease. In this universe everybody aims for a long life. *Ayurveda* is the science, which gives the knowledge about life along with the definition of life, explanation of joyful and miserable life, constructive and destructive life, long and short spans of life as well as their qualities and action.^[1] For the longevity of healthy life maintenance of equilibrium state (homeostasis) is necessary.

KEYWORDS: *Prakriti*, *Dosha*, *Dhatu*, *Dhatusamyā*, *Samyavastha*,
homeostasis, equilibrium.

INTRODUCTION

Health is a result of a regulatory system that maintains an internal homeostasis (balance). Every living organism must have functional control systems to maintain homeostasis. To remain healthy the internal world is in a continual state of change and regulation, making efforts to return to balance. Each organism regulates information coming in and going out, controls energy metabolism and management, as well as directing energy storage within its corporal structure.

Ancient science reduces all matter to five elements i.e. *Panch Mahabhuta*, which are the framework of nature viz *Aakash*, *Vayu*, *Agni*, *Aap*, *Prithvi*. These elements combine in different proportions to make up the material universe and human being is the perfect example of universe.

There are six elements (*Shaddhatu*) responsible for the existence of both human (internal environment) as well as the universe (external environment).^[2] The two environments reciprocally influence each other and constant exchange of materials take place between them so that equilibrium i.e. homeostasis is maintained. Health and disease depends upon the capability of man to adjust oneself according to environment. Therefore it is fundamental to know how the homeostasis of different physiological variable is achieved and how the abnormality in these homeostatic regulations leads to various dysfunctions.

DISCUSSION

The term homeostasis was coined by American psychologist Walter Cannon where *homoiois* means like and *stasis* means standing still. It describes the phenomenon of the constancy of the internal environment. The capacity of self regulation is the cause for maintenance of steady states in the body, which occurs due to coordinated integration of various physiological mechanisms. Abnormal deviation from these homeostatic processes leads to bodily dysfunction.

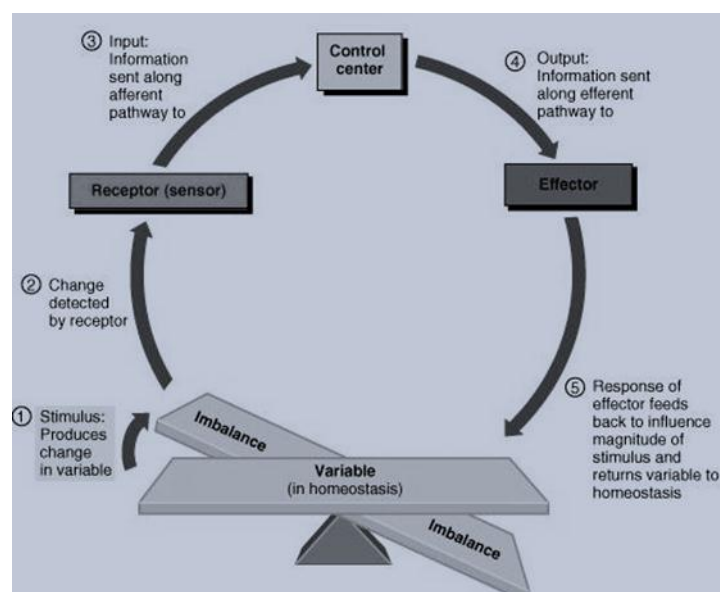


Fig. 1

Modern science explains homeostatic imbalance as the failure of body to maintain homeostasis which is the starting point of disorders and diseases in the body, caused by factors like stress, alcohol consumption, altered eating habits, sleeplessness, hypoxia, over exercise and dehydration. Due to these factors the control centre fail to interpret the signal or send inappropriate signals to effectors or the effectors fail to act accordingly to central command. It results in homeostatic deficiency and development of disorders and diseases like

gout, acidosis, diabetes mellitus, infections, poisoning, hypoglycaemia, dehydration, hypertension etc.

Ayurveda relies on the concept of “*Yat Pinde Tad Bramhande*” quoted in *Vedant Darshan*, means whatever is present inside the body is also found in the universe. External environment (*Loka*) is formed by the permutation and combination of *Pancha Mahabhuta* and similarly internal environment (*Purush*) is also *Paanchabhautik*, which is self explanatory in the verse *Sarva Dravyam Paanchabhautikam* (all substances are made up of five eternal substances).^[3] Such connection among two environments is responsible to maintain and re establish *Saamyavastha* (homeostasis) in body.

The ancient description of the human body as a perfect example of universe implies that his body is also a field of environment and they reciprocally influence each other. Man constitutes his own environment i.e. internal environment and also contributes in creation of this whole universe. When this internal environment is appropriately customized with that of external i.e. the internal environment is at equilibrium state with external environment, the man is said to be in *Samyavastha*. And any failure in adjustment with external environment leads diseased state i.e. *Aswasthavastha*.

Aacharya Susruta has mentioned *Agnishomiyatvam* i.e. the life on this universe is maintained because of two factors known as sun, moon which determines the *Aagneya* and *Saumya Guna* of universal matter. *Vayu* due to its mobile nature alter the *Bala* of sun and moon, thus influence their *Gunas*.^[4] All these three significantly affect the variations in *Kala* or time and *Ritu* or seasons. Sun is absorbing in nature, moon is nourishing and strengthening in nature. *Vayu* or air brings about movements. In similar manner body is sustained by functional triad called *Vata, Pitta and Kapha*.

Ayurveda defines *Garbha* as *Agnishomiyam*.^[5] Sperm and ovum are *Saumya* and *Aagneya* dominant respectively, and during fertilization *Prakriti* of the *Garbha* is formed under the effect of *Dosha* predominant in *Sukra* and *Shonita*.^[6] *Prakriti* means nature or behaviour or personality of an individual which describes the internal environment of human beings. *Prakriti* of an individual represents the *Doshik* state of an individual. *Ayurveda* is actually aimed for maintenance/restoration of *Prakriti* (Homeostasis). *Prakritivashta* (physiological state) of an individual is only maintained by the maintenance of homeostatic atmosphere. *Prakriti* is equilibrium of *Dhatu*s i.e. *Dhatusamyam* while the imbalance state of *Dhatu*s is

known as *Vikara* or *Dhatuvaishamya*.^[7] The disequilibrium in these *Dhatu*s causes diseased state, so equilibrium (homeostasis) is to be maintained for health.

Apart from the influence of sun, moon and *Vayu* on the human body, the external environment of man is also constituted by *Kala*, *Artha* and *Karma*. *Kala* or time, in the present context refers to *Ritu* or Seasons, and *Artha* to the objects of the senses, *Karma* i.e. actions. Seasons are the natural global earth clock and the rhythm of the world. Equinox and solstice make the two main divisions of the seasons, which further divide into four seasons (spring, summer, autumn, winter) & these four again divided into six. The same seasonal phenomenon is found inside the body of each living being in this world and give the internal seasons.

Table 1: Effect of *Ritukala* on *Tridosha*.

<i>Dosha</i>	<i>Chaya</i>	<i>Prakop</i>	<i>Prasham</i>
<i>Vata</i>	<i>Grishma</i> (summer)	<i>Varsha</i> (monsoon)	<i>Sharad</i> (autumn)
<i>Pitta</i>	<i>Varsha</i> (monsoon)	<i>Sharad</i> (autumn)	<i>Hemant</i> (fall winter)
<i>Kapha</i>	<i>Shishir</i> (winter)	<i>Vasant</i> (spring)	<i>Grishma</i> (summer)

For the maintenance of health *Ayurved* suggests intake of wholesome food (*Hitaahara*). While unwholesome food is responsible for ill health. But *Aacharya Charak* provided reference of *Trividh Aayatana* (cause) i.e. *Kala Viparyaya*, *Pragyanparadh* and *Asatmyaindriyarth Samyog* for imbalance or pathology in the body due to hypo (*Heenayoga*), perverse (*Mithyayoga*) and hyper (*Atiyoga*) of *Kala*, *Artha* and *Karma*.^[8] *Charak Sharirasthan* explained *Kala Samprapti* (pathogenesis) where extreme climatic conditions in various seasons and untimely intake of food leads to *Kalaj Roga*.^[9]

Swastha Purusha is the person in whom the functional triad of the body i.e. *Vata*, *Pitta* and *Kapha* are in equilibrium state, whose *Agni* is in *Samavastha* (equilibrium state) and the *Dhatu*s or the fundamental and supporting tissues are in equilibrium state, in whom the process of the removal of the waste products from the body is regular and whose *Atma* (spirit), *Indriya* (sense organs) and *Mana* (mind) are peaceful.^[10] Hence it can be stated that the physical, mental and spiritual equilibrium of a healthy individual is the index of his happiness, strength, confrontation and capability to adjust him to the ever changing environment.

The most vital principle of *Ayurveda* is the equilibrium of tissue elements i.e. *Dhatusamyā*. The approach of *Ayurveda* to treat the disease, aims to maintain this homeostasis or *Dhatusamyā*. To maintain the homeostasis (*Dhatusamyā*) flow of nutrients and elimination of metabolites in *Srotamsi* should be uninterrupted and clean.

Ayurveda has mentioned *Samshodhana* and *Samshamana Chikitsa* by means of which these channels get clean and impurities are removed.^[11] *Samshodhana* is also essential for the maintenance of *Dhatusamyā* during the circadian and seasonal vitiation of the *Doshas*. The main line of *Samshodhana* for the disturbances caused by *Vata*, *Pitta* and *Kapha* are the administration of *Vasti* or medicated enema (i.e., *Asthapana* and *Anuvasana*), *Virechana* or purgation and *Vamana* or emetics respectively.

The *Samshamana* or palliative therapy maintains this equilibrium of *Doshas* and *Dhatus* by administering proper diet and drug. The *Samshamana* therapy for these *Doshas* consists the administration of *Taila* or medicated oil for *Vata*, *Grita* or *Ghee* for *Pitta* and *Madhu* or honey for *Kapha*. This way of maintaining *Dhatusamyā* (Homeostasis) is called *Prakriti Sthapana* or re-establishment of normalcy.

Table 2: Doshā and its Chikitsa.

<i>Dosha</i>	<i>Samshodhan</i>	<i>Sanshaman</i>	<i>Shaman Rasa</i>
<i>Vata</i>	<i>Asthapan or Anuvasan Basti</i>	<i>Taila</i> (oil)	<i>Katu, Tikta, Kashaya</i>
<i>Pitta</i>	<i>Virechan in Sharad Ritu</i>	<i>Ghrit</i> (ghee)	<i>Katu, Amla, Lavana</i>
<i>Kapha</i>	<i>Vaman in Vasant Ritu</i>	<i>Madhu</i> (honey)	<i>Madhur, Amla, Lavana</i>

All the physical objects including diet, drugs, tissues of the body are made up of the five basic elements i.e., *Panchamahabhut*. Whenever any substance with similar *Panchabhautik* constituent is taken, then the same increases and the reverse decreases. This is known as the theory of the *Samanya* and *Vishesha* i.e. homology and heterology.^[12]

Ahara or diet is most importance in the *Samshodhana*. The diet therapy is also based on the principle of *Samanya* and *Vishesha*. The *Panchabhautika* composition of the given *Ahara* or diet and its *Rasa*, *Guna* is directly relevant to the three *Doshas* i.e. *Vata*, *Pitta* and *Kapha*.

In *Ayurveda* there is also the description of *Rasayana* therapy. The *Rasayana* used in the healthy persons for maintenance and promotion of positive health is known as *Kamya Rasayana*. Along with this *Kamaya Rasayana*, there is *Naimittika Rasayana* also which is used in the management of some specific diseases. All the *Rasayana* agents have some

Medhakar or brain tonic effect and they improve the mental disorders. There are certain *Rasayana* drugs which may induce *Vamana*, *Virechana* and *Swedana Karma* in the body and the body gets purified. Vitiating *Doshas* are expelled from the body. These are called *Samshodhana Rasayana*. *Samshamana* group of *Rasayana* drugs produce *Rasayana Prabhava* in the body restoring *Dosha Samya* or internal homeostasis and metabolic constancy in human being which is necessary for health.

CONCLUSION

Above mentioned literature and facts explain that human body maintains homeostasis by returning the altered variables in the body to normal. Various external factors affect the self regulation capacity of body and failure to return to normal homeostasis, leads to development of disorders and diseases.

Universe (*Loka*) and human (*Purush*) are formed of *Shad Dhatu* and five eternal elements i.e. *Pancha Mahabhutas* due to which they both reciprocally influence each other. Equilibrium state among them i.e. external and internal environment is responsible to maintain and re establish *Samyavastha* (homeostasis) in the body.

Life on the universe is maintained by *Aagneya* and *Saumya Gunas* of sun and moon and *Vayu* modifies their *Bala* and *Guna* due to its mobile nature. Similar phenomenon is governed by *Tridosha* (*Vata*, *Pitta*, *Kapha*) in human body. In the internal environment *Agnishomiyatvam* is also mentioned for *Garbha*, as *Sukra* and *Shonita* are *Saumya* and *Aagneya* respectively. *Prakriti* of the *Garbha* is determined by the predominant *Dosha* during the time of fertilization. *Prakriti* is the physiological and *Dhatusamya* state which needs to be maintained for health.

Kala Artha and *Karma* also influence the internal environment as the *Kala Viparyaya Pragyaparadh* and *Asastmyaindriyarth Samyog* is considered as *Trividh Aayatana* of *Roga*. *Kala* has influence on the *Chaya*, *Prakop* and *Prashaman* of *Tridosha*.

Shrotas carry nutrients and waste metabolites due to which *Dhatusamya* is maintained. Any disruption in these channels causes vitiation of *Doshas* which is treated by *Samshodhan* and *Samshaman Chikitsa* and normalcy is re established.

The diet and drug therapies for *Chikitsa* is based on *Panchabhautik* composition of *Loka* and *Purush* and follow *Saamanya Vishesh* principle, hence significant for restoring *Vata*, *Pitta*

and *Kapha* in human body. *Ayurveda* provides various *Rasayan* therapy which maintains physical and mental health and also eliminate vitiated *Doshas* from body.

Hence it can be concluded that *Ayurveda* elucidated homeostasis in its literature in context with external and internal environments which exhibits similarity in basic constitutions and facilitate human body self regulate its steady state or *Samyavastha*.

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