

**IMMUNITY AND ITS IMPROVEMENT THROUGH AYURVEDA****<sup>1</sup>Dr. Priyanka Inaniyan, <sup>2</sup>Dr. Pramod Kumar Mishra and <sup>3</sup>Dr. Rahul Parashar**

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**ABSTRACT**

Ayurveda is the science of human health and disease. It deals with comfort, discomfort, physiological and pathological aspect of life. The word immunity means the strength of protecting from infectious diseases. The immune system evolved as defense system to protect body from invading pathological microorganisms and malignant diseases. Strong immunity is the key for maintaining stability in health with the changing season. *Vyadhikshamatva* is described in Ayurveda and this concept is considered equivalent to immunity. Normal condition of *kapha*, *Bala* and *ojas* are also similar to immunity. *Vyadhikshamatva* literally means resistance (*ksamatva*) against disease (*vyadhi*). *Ojas* is final and excellence of the product dhatu and

*vyadhikshamatva* depends on it. Here is a review of Ayurvedic texts regarding immunity and concept of *Vyadhikshamatva* which depends on normal dosa, equilibrium state of dhatu, normal *agni bala* and *ojas* etc. Many people are prone to disease due to their faulty dietary habits, change in climate, on the other hand, some people remain healthy in spite of breaking dietary rules or changes in climate and they do not get affected by many diseases. Many microorganisms enter the human body through air, water, soil but fail to produce disease due to immune response present in the living body. The most important thing in relation to health and disease is immunity of the body.

**KEYWORDS:** Immunity, *Vyadhikshamatva*, *Agnibala*, *Oja*, Dietary habits.

## INTRODUCTION

The most important thing in relation to health and disease is immunity of the body. Immunity is defined as the capacity of the body to resist pathogenic agents. It is the ability of body to resist the entry of different types of foreign bodies like bacteria, virus, toxic substances etc. Immunity is of two types 1. Innate immunity 2. Acquired immunity, Innate immunity is the inborn capacity of the body to resist pathogens. Acquired immunity is the resistance developed in the body against any specific pathogens after an antigenic stimulus. So this type of immunity is also known as specific immunity.<sup>[1]</sup> Our immune system is essential for our survival. Without an immune system our bodies would be open to attack from infections. It is our immune system that provides us protection against pathogens. *Vyadhikshamatva* is described in Ayurveda and this concept is considered equivalent to immunity. In Ayurveda innate immunity may be correlated to *Sahaja bala* and acquired immunity may be correlated to *kalaja* and *yuktikrita bala*. Keen observation substantiates that human being has two different varieties of strengths. 1. The strength required for the growth of the body and to perform routine activities is called ENERGY (Shakti) 2. The Strength required to protect the body against several disease is called RESISTENCE (*Kshamatva*).<sup>[2]</sup> In Ayurveda, *Ojas* has been described as vital defense mechanism of the body. *Ojas* is final dhatu and *vyadhikshamatva* depends on it. CONCEPT OF HITA AND AHITA FOOD SUBSTANCE Some food substance are wholesome and suitable for the body as the body can inheritably transform those substances into its own (congruent) by virtue of *jatisatmya*, called *hita* substances (*satmya*). Substances which are always suitable and accustomed (to man) by birth like water, ghee, milk, porridge (boiled rice) etc are called *hita* substance while others those which are always unsuitable and causes putrefaction and similarly death (destroying) such as fire, caustic alkali, poison etc. so also some others which by combinations become similar to poison, are called *Ahita* substance (*Asatmya*).<sup>[3]</sup> The following three are the reasons seen for the ill effect being present in *ahita* substances 1. Natural inheritance feature (*nisargadapi*) 2. Physical or chemical combinations (*nithogunanam*) 3. Refinement (*samskara*) Some other example of *dravyas* 1. Incompatible combination and incongruent exposures (*viruddha ahara viharas*) 2. *Vajra* told by Kasyapa means incongruent substance to produce antigens due to improper digestion eg; insect, creatures, grass etc. 3. Certain drugs (medicine). 4. Micro-organisms (*grasas*). 5. Psychological aversion. 6. The *viruddha dravyas* e.g. equal quantities of honey and ghee. All the causes are responsible for disease production. Hence *vagbhata* advised that all drugs in the practice of medicine should only be used logically. Not only *ahita* diets and medicines provoke the hostile reactions but ones *viruddha* deeds (*vihar*) also

manifest such mishap ex; sudden cold water bath after heat exhaustion is *virudhha*. Charaka defined Ayus (life) as combination of the body, sense organs, mind and soul. In other word, Ayurveda has given much priority to live healthy and joyful long life. Concepts related to health and diseases are discussed with detail in nearly all classical texts of Ayurveda. These concepts include knowledge of etiology, symptomology, therapeutics, and reasons behind falling sick various measures to maintain healthy status.

Concept of *Vyadhikshamatva* In Sanskrita, the word *Vyadhikshamatva* is made up of two words; *Vyadhi* (disease) and *Kshamatva* (suppress or overcome). According to Ayurveda, *Vyadhi* is conditions which come into existence as consequence of non-equilibrium between *Doshas* (physiological factors i.e *vata*, *pitta* & *kapha*), *Dhatus* (tissues systems) and *Malas* (excretory products of body). These factors, in their normal status are responsible in maintaining the physical and psychological health. The other word, *Kshamatva* is derived from, or composed to suppress anger, to keep quite or to resist. Therefore *Vyadhikshamatva* means the factor which limits the pathogenesis and opposes the strength of disease. Chakrapani Datta, while commenting on Charaka Samhita, gave his view on the term *Vyadhikshamatva* and explained the term in two divisions, viz (I) *Vyadhi-balavirodhitvam*: It is the capacity to restrain or withstand the strength (severity) of the diseases i.e. strength to resist the progress of disease. (II) *Vyadhi-utpadakapratibandhakatva*: The resisting power of the body competent enough to prevent the occurrence and re-occurrence of the disease. These sub-types of commutatively form the resistance which now a day known as Immunity. There are nine factors mentioned in Ayurveda which promotes body towards incapability to resist the disease manifestation i.e. factors responsible for decreasing immunity.

- 1) *Ati- Sthoola* (Excessively obese persons)
- 2) *Ati-Krishha* (Excessively emaciated person)
- 3) *Anivista-Mamsa* (Individual having improper musculature)
- 4) *Anivista-Asthi* (persons having defective bone tissues)
- 5) *Anivista-Shonita* (persons with defective blood)
- 6) *Durbala* (Constantly weak person)
- 7) *Asatmya-Aaharopachita* (Those nourished with unwholesome food)
- 8) *Alpa-Aaharopachita* (Those taking diet in small quantity)
- 9) *Alpa-Sattva* (Individuals with feeble mind)

**Relation of Vyadhikshamatva with various factors**

1. *Sleshma Kapha* is one of the *Tridosha* (three humors-*Vata*, *Pitta* and *Kapha*-which are said to be responsible for maintenance of homeostasis or equilibrium in the body), which possesses properties such as *Snigdha* (unctuousness), *Sita* (cold, producing coldness), *Guru* (heavy) *Manda* (slow in action), *Slaksna* (smooth), *Mrtsna* (slimy) and *Sthira* (stable/static). *Sleshma* in normal state considered as *Bala* and *Oja* while in abnormal state it is *Mala* (waste) and *Papma* (diseases) Function of normal *Kapha* is like that of *Ojas*. *Kapha* in normal state provides compactness, stability, heaviness, virility, immunity, resistance, courage and gracelessness.

2. *Hita* and *Ahita* food Some food substances are wholesome and suitable for the body as the body can inheritably transfer those substances into its own by virtue of *Jatisatmya*. These are called as *Satmya* or *Hita* substances. Water, ghee milk and rice are few examples of general wholesome food as these are completely suitable for every human. On the other contrary some substance do not suit to the body and cause some adverse reaction. These are known as *Ahita* or *Asatmya* substances. Fire-burns, alkalis-cauterize, toxin-kills these are the examples of *Ahita* substance. There are three reasons seen for the ill-effects being present in *Ahita* substance i.e. natural inherent feature, physical or chemical combination and refinement. *Hita*, *Ahita* Substance and *Vyadhikshamatva* *Hita ahara* is responsible to developed healthy Dhatus and final product of Dhatus i.e. *Ojus*. So increases in *Ojus* or *Bala* ultimately increase *Vyadhikshmatva*. On the other hand, *Ahita* substance if taken continuously then leads to improper nourishment of Dhatus which result in decreasing *Ojus* and *Vyadhikshmatva*.

3. Relation of *Bala* and *Vyadhikshamatva* Health of an individual depends upon good strength of the body tissues. It is difficult to treat the disease occurred in one whose body strength is low and hence Acharya *Charaka* prefers the *Bala* (strength) examination of an individual before starting the treatment. Acharya *Sushruta* mentioned that the final and excellent essence of Dhatus begins with *Rasa* to *Shukra* is *Ojus* and this *Ojus* is said to be *Bala*. Dalhana has commented on this as *Ojus* is the cause for predominance of *Bala* of whole body. Acharya *Vagbhata* also supported view of Acharya *Sushruta* and mentioned similar concept which clearly indicates the close relation between *Oja* and *Vyadhikshamatva*.

**Types of Bala. It is of three types**

*Sahaja* (constitutional), *Kalaja* (temporal) and *Yuktikrutajabala* (acquired). *Sahaja Bala* Constitutional strength is the one which exists in the mind and body from the very birth.

*Kalaja Bala* Temporal strength is the one which is based on division of seasons and age of the person. In *Adana kala* (late winter, spring and summers) *Bala* of individual will be less and in *Visarga kala* (rainy seasons, autumn and winter) it will be more. *Bala* will be *Alpa* (minimum) in child and old age, *Uttama* (maximum) in young age. *Yuktikrutaja Bala* Acquired strength is the one which is achieved by the combination of diet and physical activities. Factors responsible for promotion of strength There are 12 factors responsible for increasing *Bala* (strength) of the body.

1. Birth in a country where people are naturally strong.
2. Birth at a time when people naturally gain strength i.e. *Hemanta* (November to January) and *Shisira* (January to March)
3. Favorable deposition of time (pleasant and moderate climate)
4. Excellence in the qualities of seed i.e. sperm and ovum, and *Asaya* i.e. proper anatomical and physiological status of uterus of mother
5. Excellence of the ingested food
6. Excellence of the physique
7. Excellence of the *Satmya* (wholesomeness of various factors responsible for maintenance of the body)
8. Excellence of the mind
9. Favorable deposition of the nature
10. Young age of both the parents i.e. they should not be over aged
11. Habitual performance of exercise
12. Cheerful disposition and immense love for each other. The individuals possessing most of these factors are naturally immune i.e. *Vyadhikshamatva* for diseases.

#### 4. Relation between *Agni* (food assimilation power of body) and *Vyadhikshama*

Acharya *Charaka* in the context of functions of *Agni* narrated that, *Dehagni* or *Jatharagni* (digestive power of stomach) is responsible for life, color (luster of the skin), strength, health, enthusiasm, plumpness, complexion, *Ojas* (energy), *Tejas* (gleam of the body), other varieties of *Agni* and *Prana* (vitality). Extinction of this *Jatharagni* leads to death. Its proper maintenance helps a person to live a long life and its impairment gives rise to diseases. Therefore *Jatharagni* is considered to be the root or the most important sustaining factor of living beings. In this way immunity is influenced by the power of *Agni*, digestive fire and our ability to digest, assimilate and absorb nutrients in human bodies. In a healthy, strong and immune body, invaders get neutralized or destroyed and expelled out of body. If *Agni* is

impaired by an imbalance within, the *Tridosha* then metabolism will get affected, immune response and natural resistance will also be lowered.

#### 5. Relation between *Oja* and *Vyadhikshamatva*

According to Acharya Charaka, *oja* appeared foremost in the human body during embryogenesis. The essence of *Saptadhatu* (seven bodily tissues as from *Rasa* to *Shukra Dhatu*), i.e. *Rasa* (plasma and lymph), *Rakta* (blood cells), *Mansa* (connective and muscular tissue), *Meda* (body fats e.g. adipose tissue), *Asthi* (bones), *Majja* (bone marrow) and *Shukra* (reproductive systems) is called *Oja* and it is the seat for strength, hence called *Bala*. *Ojas* is *Sara* (essence) of *Dhatu*s ending with *Sukra*; through located in the heart, it pervades all over body and control the working of the body. It is viscous, unctuous, greasy, *Somatmaka* (preponderant in watery principal), clear (transparent) and slight reddish yellow in color. By its loss (destruction, absence) death will occur and by its presence the body (and life) sure to survive. *Oja* is the reason for different condition and activities related with the body. *Ojakshaya* (decrease or loss of *Ojas*) *Ojas* undergoes decrease (in quantity) by anger, hunger, worry, grief and exertion. With such decrease, the person becomes fretful, debilitated, worries much again (without apparent reason), feels discomfort in the sense organ, develop bad complexion, bad mention and dryness of skin.

6. *Rasayana* (Rejuvenation therapy) and *Vyadhikshamatva Rasayana* means the way for attaining excellence in all body tissue through some special measures and medicines. *Rasayana* therapy is one of eight major specialties of Ayurveda. The concepts of immunity and immunomodulation are extensively explored and used in Ayurveda, particularly in the form of *Rasayana* therapy. According to Ayurveda, *Rasayana* helps in strengthening *Oja*, *Bala* and thus increases *Vyadhikshamatva*. Benefits of *Rasayana* therapy Long life (good), memory, great intelligence, perfect health, youthfulness, bright complexion and color bold voice and magnanimity, increase strength, of the body and sense organ, perfection in speech, sexual power and brilliance are all obtained from proper *Rasayana* therapy.

Classification of *Rasayana* According to method of use

- 1) *Kutiprevishika rasayana*(indoor regimen)
- 2) *Vatatapika Rasayana* (outdoor Regimen)



**According to purpose**

1) *Ajasarika rasayana* (promoter of health by some drug regimen and can be consumed in all conditions)

2) *Naimittika Rasayana* (promoter of specific vitality in specific disease)

3) *Kamya Rasayana* (promoter of health in specific way in normal individual)

Concept of improving *Vyadhikshamatva* (Immunization)

The following are looking to be the immunization measures in Ayurveda.

1. *Rasayana*

2. *Lehana* (Lickables or Electuaries)

Taking Rasayana is helpful to increase the immunity of the person to keep him away from opportunistic diseases. The possible mechanisms by which action of Rasayana can be interpreted with modern aspects are; nutritive function, immunomodulatory action, antioxidant action, anti-aging effect, neuro protective action, haemopoietic effect etc. In recent years numerous researches have been done to explore Ayurvedic treasure for benefit of common people to improve health by using different Ayurvedic drugs. Some examples are:

1. Immunostimulatory effect of *Curculigo orchioidea* Gaertn.
2. Macrophage activation property of *Tinospora cordifolia* Willd.
3. Effect of some Indian herbs (*Asparagus racemosus* Willd., *Tinospora cordifolia* Willd., *Withania somnifera* Dunal and *Picrorhiza kurroa* Royle ex Benth.) on macrophage functions in mice.
4. Immunoprotection by *Withania somnifera* Dunal, *Tinospora cordifolia* Willd. and *Asparagus racemosus* Willd. during cancer chemotherapy
5. Immunopotentiating property of *Tinospora cordifolia* Willd.
6. Augmentation of non-specific immunity by gold preparations.
7. Anti-cataleptic, anti-anxiety and anti-depressant activity of gold
8. Antioxidant activity of *Momordica charantia* Linn, *Glycyrrhiza glabra* L, *Acacia catechu* Willd. And *Terminalia chebula* Retz
9. Antioxidative effect of triphala (combination of *Terminalia chebula* Retz, *Terminalia bellerica* Roxb. and *Emblica officinalis* Gaertn)
10. Antibacterial activities of *Emblica officinalis* Gaertn. and *Coriandrum sativum*
11. Antifungal activity of *Curcuma longa*

12. *Haridradi Ghrita* (Polyherbal medicated ghruta) shows the Immunomodulatory activity (preferential stimulation of the components of cell-mediated immunity) in rats during a trail.

13. Immunomodulatory activity of *Triphala* (combination of fruit pulp of *Terminalia chebula* Retz, *Terminalia belerica* Roxb. and *Emblica officinalis* Gaertn).

14. Antioxidant activity of tannoid principles of *Emblica officinalis* Gaertn. (Amalaki).

15. Anti-oxidant effect of *Withania somnifera* Dunal. glycowithanolides in rat. There are number of such studies through which Ayurvedic single or multiple formulations tested by experimental studies on albino mice/rats etc. or reported the beneficial effect of human trails, So these studies reveals that there are wide range of possibilities improving immunity and treatment in various disease. The selection of *Rasayana* According to need, *Rasayana* drugs can be administered by considering various factors such as Age, *Dhatu Deha Prakruti*, *Kala*, Disease, to enhance memory And *Srotas*, *Medhya Rasayana* drugs are life-promoting, disease-alleviating, promoters of strength, and power of intellect. Level of action of *Rasayana* drugs *Rasayana* act at three levels such as at the level of *Poshaka Rasa* (increases nutrition), at the level of *Agni* (increases digestion and assimilation of food) and at the level of *Srotas* (increases absorption of food from serum to various parts of body) *Lehana* In Ayurvedic texts, various *Acharays* have described countless useful formulations and mode of conduct for children. Acharya *Kashyapa* describes a special formulation by the name of “*Lehana*”. The facts stated about *Lehana* are as under –

#### Purposes of *Lehana*

1. To enhances growth & development by providing sufficient nutrition.
2. Promote health, complexion and strength (immunity).
3. Protect from various infections along with improving intellect and speech (delayed milestone).

Indication of *Lehana* The children of a mother who are having no breast milk, deficient milk, or vitiated milk of parturient women (mother) or of a wet –nurse of similar condition who have predominance of *Vata* and *Pitta* but not *Kapha*, who do not get satisfied with the breast milk and cry inspite of repeated sucking, children who do not sleep at night, eat too much, pass scanty urine and feces; children who have increased digestive power, though free from disease yet scraggy, have delicate body part and emaciated, do not pass urine and feces even for three days; such type of children should be prescribed *lehana* ( electuaries).



Conditions such as children having poor digestive power, sleepy, passing excessive (in quantity and number) amounts of urine and stool, have indigestion, receive Guru (heavy) breast milk, the mother consuming all Rasas, suffer from disease of head and neck, in *Amaroga* (disease of metabolism), fever, diarrhea, *Shotha* (edema), jaundice, anemia, cardiac disease, dyspnea, cough, disease of rectum, urinary bladder and abdomen, flatulence, *Ganda* (enlarged thyroid), erysipelas, vomiting, anorexia, all *Graha* disease and *Alasaka* should not be prescribed *lehana*.

Various compound and formulations for *lehana* mentioned by Acharyas to increase digestive and metabolic power, strength is summarized below in brief:

A. Acharya Kashyapa

1. *Svaran Prasana* - Pure gold (in small quantity) is rubbed in water on a clean stone and given with honey and *Ghrita*, be given to child for licking. Licking of gold increase intellect, digestive power and metabolic power, strength, gives long life, is *Graha*. auspicious, virtuous, aphrodisiac, increase complexion and elimination the (evil effect of)

2 *Samvardhan ghrit*

3. *Brahmi ghrita*

B. Acharya Charaka

1. *Panchagavya ghrita* (Ghrita clarified butter made from cow milk)

2. *Brahmi ghrita*

3. *Kalyanaka ghrit*

C. Acharya Sushruta Sushruta has mentioned 4 recipes (containing gold) which provide general immunity, body resistance, helpful in growth and development and enhancing the intelligence. These are:

1. *Svarna bhasm* with *Kustha*, *vacha*, *madhu* and ghee.

2. *Svarna bhasm* with paste of Brahmi (*Bacopa monnieri* Linn), *Sankhapuspi* (*Convolvulus pluricaulis* Chois.), with honey & ghee.

3. *Svarna bhasm*, *Arkpushpi* (*Holostemma annularium* Roxb.), *Vacha* (*Acorus calamus* Linn), honey & ghee.

4. *Svarna bhasm*, *Khaidarya* (*Murraya koenigii* Linn), *Sweta Durva* (*Cynodon dactylon* Linn.) ghee.

**D. Acharya Vagbhata**

1. *Ashtanga ghrta*
2. *Sarshvata ghrta*
3. *Vachadi ghrta*
4. Combination of gold a) *Svarna* (Gold), *Vacha* (*Acorus Calamus* Linn ), *Kushta* (*Saussurea lappa* C.B.Clarke) b) *Svarna* (Gold), *Arkpushpi* (*Holostemma annularium* Roxb.) c) *Svarna* (Gold), *Matsyakyaka* (*Alternanthera sessilis* Linn.), *Shankhapushpi* (*Convolvulus pluricaulis* Choisy.) d) *Svarna* (Gold), *Kaidarya* (*Murraya koenigii* Linn), *Vacha* (*Acoru calamus*).

**CONCLUSION**

*Vyadhikshamatva* is described in Ayurveda and this concept is considered equivalent to immunity.] Our immune system is essential for our survival. Without an immune system our bodies would be open to attack from infections. It is our immune system that provides us protection against pathogens. In Ayurveda, *Ojas* has been described as vital defense mechanism of the body. *Ojas* is final dhatu and *vyadhikshamatva* depends on it. *Vyadhikshamatva* can also be enhanced through balanced diet, proper daily regimens and *rasayan* therapy.

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