

A Conceptual study of Vyadhikshamatva in Ayurveda w.s.r. to Immunity

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Abstract

In Ayurveda, *Vyadhikshamatva* is considered to be the defense mechanism against the diseases. It acts in the body mainly in two ways i.e. to prevent the manifestation of new disease and other is to stop the progression of already manifested disease. *Vyadhikshamatva* in the body is attributed to *Ojasa*, *Bala* and *Prakrita kapha*. *Acharya Charaka* has defined *Ojasa* as the essence of all the *dhatu* and is of two types i.e. *para oja* which resides in *hridaya*, the depletion of which can cause death and other is *apara oja* that is present in the whole body. *Acharya Sushruta* has described three pathological states of *ojasa* i.e. *ojavisransa*, *ojavyapata* and *ojakshaya* which manifest various disorders in the body. *Acharya Charaka* has described *prakrita kapha* as *bala* which is responsible for healthy state of body and *vaikrita kapha* as mala which is responsible for diseased state of the body. So *ojasa*, *Bala* and *prakrita kapha* which are responsible for maintaining the health and resistance against diseases can be correlated with the immune system of the body. *Ayurveda Acharya* have promoted the use of *Rasayana* (Rejuvenation therapy) and *ojasa* promoting herbs to enhance *ojasa* and *vyadhikshamatva* (immunity) in the body which can be

helpful in the management of immunodeficiency disorders.

Keywords: *Vyadhikshamatva*, *Ojasa*, *Bala*, *Prakrita Kapha*, Immunity

Introduction

It is pertinent here to explore the concept of immunity in this ancient science of life which offers a holistic approach and a potential promise regarding immunotherapy. The main purpose and objectives of *Ayurveda* is the preservation of health in healthy individual and eradication of diseases which are curable. During certain conditions, or due to certain factors, even unwholesome food does not produce diseases immediately. All unwholesome food articles are not equally harmful, all doshas are not equally powerful, and all persons are not capable of resisting diseases. Resistance to diseases or immunity against diseases is of two kinds i.e. the one which attenuate the manifested disease and other variety prevents the manifestation of diseases. Unwholesome food substances become more harmful depending upon the nature of the locality, time, combination, potency and excessive quantity.

The main purpose and objectives of *Ayurveda* is the preservation of health in healthy individual and

eradication of diseases which are curable. A person who is having balanced proportion of muscles, compactness, and excellent sensory faculties never suffers from such diseases. Such people can easily withstand extremes of hunger, thirst, heat of the sun, cold and physical exercises. For the same purpose, *Ayurveda* emphasizes the promotion of health through the strengthening of host defences, to act as a resistive force against day-to-day physiological extremes as well as opportunistic maladies. This force to reckon with, as regards everyday wellness is termed as “*vyadhikshamatva*” in *Ayurveda*. The concept expounds both preventive medicine aspects, along with curative aspects of treatment as the self-explanatory terms – “*vyaadhibalavirodhitam*” and “*vyadyutpadapratibandhakatvam*” elaborated by *acharya Chakrapani* in this respect. The concept of *Vyadhikshamatva* (immunity) is of tremendous importance in the daily wellness of human beings; for prevention and recovery from diseases. When etiological factors come in contact with the body they try to produce disease. At the same time the body tries to resist the disease. This power of the body, which prevents the development of diseases or resists a developed disease, is called Immunity. Resistance to disease or immunity against disease is of two kinds i.e. the one which attenuate the manifested diseases and other variety prevents the manifestation of diseasesⁱ.

Thus, it is clear that concept of immunity was familiar at that time and has been analyzed in detail in form of *Vyadhikshamatva* in various *Ayurvedic* texts. Various factors which contribute towards *vyadhikshamatva* are normal doshas, equilibrium state of *dhatu*s (bodily tissues), normal *agni* (digestive fire), patency of *srotas* (microchannels) etc. Aim and object of *Ayurveda* is the maintenance of equilibrium state of *dhatu*s.ⁱⁱ According to *Acharya Charaka*, the following persons are free from

disease – those who consume favourable (suitable) diet, are separated to sensual pleasure, who donate regularly, are fair in judgement, speak the truth always, gifted with forgiving nature and the one who is faithful to learned people.ⁱⁱⁱ

Materials and Methods

The materials were collected from the classical *Ayurvedic* literatures, magazines and research journals.

Synonyms: Synonyms for *Vyadhikshamatva* which appears in *Ayurvedic* scriptures are: *Prakrita Sleshma, Bala* and *Ojas*.

Contributing Factors For Vyadhikshamatva

Factors which contribute for *vyadhikshamatva* are normal dosha, equilibrium state of *dhatu*, equilibrium state of *mala*, normal *agni*, patency of *srotas* etc. or factors which supports the equilibrium state of all physiological parameters. These points are described below.

I. Doshas

1. *VATA*:- *Vata* supports the body by performing functions like movement, perception, filling, separation and retaining. The normal functions of *vata* are enthusiasm, inspiration, expiration, movements, normal formation of *dhatu*s, and proper eliminations of excreta. When *vata* combines with *agni*, it produces heat but in combination with *soma* (*kapha*) produces cold, that is why it is called *yogavahi* (synergist).^{iv}
2. *PITTA*:- *Pitta* supports the body by performing functions such as coloring, digestion, production of *ojas*, vision, intelligence, body temperature, along with other functions of *agni* that are of five types. The normal functions of *pitta* are clarity in vision, good digestion, regulation of body temperature, hunger and thirst; softness in body parts, luster, happiness and intelligence.^v

3. **KAPHA:-** *Kapha* supports the body by performing functions like binding of joints, unctiousness, healing, saturation, giving strength and stability to the body and such other functions of water, and it is of five types. The normal functions of *kapha* are unctuousness, cohesion, firmness, heaviness, potency, strength, forbearance, patience and absence of greed^{vi}. Function of normal *kapha* (*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 performs the functions like strength, support, protection, growth and resistance) like that of *ojas*. *Kapha* in normal state provides compactness, stability, heaviness, virility, immunity, resistance, courage and greedlessness.^{vii} *Sleshma* in normal state is called *Bala* and *Oja*. *Sleshma* in abnormal state called "*Mala*" (waste) and "*Papma*" (diseases).^{viii}

II. Dhatus

Total of seven *dhatu* (tissues) are mentioned in the Ayurvedic texts i.e. *rasadhatu*, *raktadhatu*, *mamsadhatu*, *medodhatu*, *asthidhatu*, *majjadhatu*, and *shukradhatu*. All the above seven *dhatu* support and nourish the body^{ix}. Functions of each *dhatu* are as follows^x:

1. *Rasadhatu* : Provides sense of satisfaction and nourishment; supplies nutrition to *raktadhatu*.
2. *Raktadhatu* : Bestows color, sustains life activities and supplies nourishment to *mamsadhatu*. Normal blood promotes strength.
3. *Mamsadhatu* : Covers and nourishes the body, produces waste products and supplies nourishment for *medadhatu*.
4. *Medadhatu* : Bestows moistness in the eyes and other body parts, lubrication, stability and supplies nourishment to *asthidhatu*.

5. *Asthidhatu* : Supports the body with structure, helps with posture and supplies nourishment to *majjadhatu*.
6. *Majjadhatu* : Provides lubrication and strength, fills the cavities of bone, and gives nourishment to *shukradhatu*.
7. *Shukradhatu* : Bestows courage, ejaculation, lust, strength, pleasure, love, happiness, and production of foetus.

Nourishment is intrinsic to life and an important tool in the fight for survival against pathogenic microorganisms. Whenever the expression or function of one of these tissues is impaired (provided the function is non-redundant), immune disturbance occurs and develops diseases i.e., *dhatupradoshajavikara*.

III. Mala

Purisha (stools) provides strength and supports *vata*, *agni* and *pitta*. *Mutra* (urine) fills the urinary bladder and eliminates excess moisture in food. *Sweda* (sweat) provides moistness and softness to skin and supports hair^{xi}. Hence proper elimination of the malas indicates good health, and any abnormality is the cause of disease development i.e. *malapradoshajavikara*.

IV. Agni

Power of *agni* or normal condition of *agni* is responsible for strength, health, longevity and vital breath. For this reason it should be protected by proper intake of food and drinks because these act as a fuel. When deprived of food and drink, *agni* becomes disturbed. *Jatharagni* is the main principle substance responsible for disease and health. During its normalcy it is responsible for longevity, complexion, strength, health, enthusiasm, build, luster, immunity (*ojas*), temperature, additional *agni*'s (*bhutagni* and *dhatvagni*) and other vital functions. Any abnormality in *agni* will evolve in the *rasavahasrotas* and as a result, disease manifests like clouds in the sky that

bring rain. In the same way abnormality in doshas also manifest diseases. *Jatharagni* is the chief among all the agnis because the functions of *bhutagni* and *dhatvagni* are dependent upon *jatharagni*.

V. Bala

Acharya Sushruta described *bala* as “*Tatra balen sthiropacitamamsataa sarvachestasvapratigaatah svaravarnaprashado bahyanamabhyantraranam cha karananamatmakarya pratipattirbhavati*” means *Bala* imparts firm integrity to the muscles, improves the voice and complexion, and helps the person to perform his natural functions (including the external and inner function) normally^{xii}. Three types of *bala* (*Vyadhiksamatva* or immunity) in *Ayurveda* are: 1. *Sahaja* 2. *Kalaja* 3. *Yuktikrita*^{xiii}.

a. *Sahaja bala* (innate):- The constitutional strength present since birth^{xiv}. It depends on the healthiness of *shukra* (sperms) and *artava* (ovum). According to *Ayurvedic* concept of Genetics, if two parents genetic makeup is healthy, similar health status is acquired by the children. On the other hand if the genetic makeup of parents is susceptible to certain diseases, those diseases may be carried over into the next generation^{xv}. This concept indicates congenital abnormalities which occur due to abnormal changes at genes or chromosomal levels.

b. *Kalaja bala* (according to time, season, and age):- Encompassing the time of day, season, age etc. (according to *ritu* and age) factors for enhancing immunity. Strength is assumed to be greater in the early morning, spring, and *yuvaawastha* (young age) than in evening, summers and old age^{xvi}.

c. *Yuktikrita bala* (acquired):- *Ayurveda* focuses on following plans for acquiring *bala* or enhancing immunity:

- Proper and suitable ahara (nutritious diet),
- Performing exercise (chesta) with proper method &

- Using different beneficial yoga (e.g. *rasayana chikitsa*).^{xvii}

Balavardhakabhava (factors which increase strength/immunity) as described by *Acharya Charaka* - birth in a place where people are naturally healthy or strong, birth in a family of strong person (means without any family history of immunodeficient disorders), birth at a time when people naturally gain strength (*Visarga kala*), favourable time, excellence among qualities of *bija* (sperm and ovum) and *ksetra* (uterus), excellence of diet (*aharasampat*), excellence of physique (*sharirsampat*), excellence of suitability (*satmayasampat*), all mental faculties are proper (*satvasampat*), natural mechanism (*savabhavsanssidha*), young age, exercise and other physical activities^{xviii}. *Bala* or *Oja* abnormalities are of 3 kinds namely: 1. *Bala Visransa*, 2. *Bala Vyapat* and 3. *Bala Ksaya*^{xix}.

Immunity is intrinsic to life and an important tool in the fight for survival against pathogenic microorganisms. The human immune system can be divided into two major components: the innate immune system and the adaptive immune system. *Sahajabala* may be correlated to innate immunity. The innate immune system provides the rapid triggering of inflammatory responses based on the recognition (at the cell surface or within cells) of either molecules expressed by microorganisms or molecules that serve as "danger signals" released by cells under attack. These receptor/ligand interactions trigger signaling events that ultimately lead to inflammation. Virtually all cell lineages (not just immune cells) are involved in innate immune responses; however, myeloid cells (i.e., neutrophils and macrophages) play a major role because of their phagocytic capacity.^{xx}

VI. Mucosal Surfaces

Mucosa covering the respiratory, digestive, and urogenital tracts; the eye conjunctiva; the inner ear; and the ducts of

all exocrine glands contain cells of the innate and adaptive mucosal immune system that protect these surfaces against pathogens. In the healthy adult, mucosa-associated lymphoid tissue (MALT) contains 80% of all immune cells within the body and constitutes the largest mammalian lymphoid organ system. MALT has three main functions: (1) to protect the mucous membranes from invasive pathogens; (2) to prevent uptake of foreign antigens from food, commensal organisms, airborne pathogens and particulate matter; and (3) to prevent pathologic immune responses from foreign antigens if they cross the mucosal barriers of the body^{xxi}. These events may be correlated to functions of the five types of *kapha*.

VII. Immune-Complex Formation Versus Dosha Dushya

Sammurchana:

Clearance of antigen by immune-complex formation between antigen, complement, and antibody is a highly effective mechanism of host defence. However, depending on the level of immune complexes formed and their physicochemical properties, immune complexes may or may not result in host and foreign cell damage. After antigen exposure, certain types of soluble antigen-antibody complexes freely circulate and, if not cleared by the reticuloendothelial system, can be deposited in blood vessel walls and in other tissues such as renal glomeruli and cause vasculitis or glomerulonephritis syndromes. Deficiencies of early complement components are associated with inefficient clearance of immune complexes and immune complex mediated tissue damage in autoimmune syndromes, while deficiencies of the later complement components are associated with susceptibility to recurrent neisseria infections^{xxii}. All these events may be correlated to *doshadushyasammurchana* (disturbed doshas invade tissues and affect whole body in gradations) in abnormal *srotas*, and if *ojas*, *kapha* etc. perform

normally then it leads to efficient clearance of immune complexes and immune complex mediated diseases.^{xxiii}

VIII. OJAS:

1. According to *Charaka*, (during embryogenesis) the oja appeared foremost in the human body.^{xxiv}

2. The essence of *saptadhatus* (*saptadhatu* means the seven bodily tissues as from *rasa* to *shukra dhatu* e.g. *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*^{xxv}.

3. In *Ayurveda*, *Ojas* has been considered vital in the defence mechanism of the body. It resides in the heart (*hridaya*), but also circulates (*vyapata*) all over body and maintains healthy status of the person. If this is lost, life also is lost and if this intact, life also continues^{xxvi}.

4. In conditions like *madhumeha* (diabetes mellitus) and *shosha* (malnutrition), where depleting of *Ojas* (infection fighting power) is a constant feature, people are known to be susceptible to various recurrent infections.

Types: A) *Para ojas*: This is *astabindu* in quantity, if decreases then person will die. B) *Apara ojas*: which is *ardhanjali ojas*, if decreases or vitiated manifest abnormalities. It is “*snigdha*” (essence) and “*somatmaka*” (mild and cool) in nature. Though predominately white in color, has got some yellowish & whitish tinge. Ten great blood vessels connected to heart carry the “*Rasatmaka Ojas*” on which the whole life process itself is dependent.^{xxvii}

Various Compound Formulations Mentioned By Acharyas:

1) *Acharya Sushruta* - has described 4 recipes (containing gold) which provide general immunity, body resistance, helpful in growth & development & enhancing the intelligence.^{xxviii} These are: 1) *Svaran*

bhasm with *kustha* (*Saussurea lappa*), *vacha* (*Acorus calamus*), *madhu* (honey) & *ghrita*. 2) *Svaran bhasm* with paste of *brahmi* (*Bacopa monnieri*), *sankhpuspi* (*Convolvulus pluricaulis*), with honey & *ghrita*. 3) *Svaran bhasm*, *arkpushpi*, *vacha*, honey & *ghrita*. 4) *Svaran bhasm*, *khaidarya*, *sweta durva*, *ghrita*.

- 2) Lehas prescribed by *Vagbhata - Sarshvata ghrita*^{xxxix} combination of *vacha* and *swarna bhasma* with honey and *ghrita*,^{xxx} etc.
- 3) *Acharya Charaka - Panchgavya ghrita* (*ghrita* means clarified butter made from cow's milk)^{xxxi}, *Brahmi ghrita*.^{xxxii} etc.
- 4) Lehas given by *Kashyapa - Svaran Prasana* - Pure gold (in small quantity) is rubbed in water on a clean stone & given with honey and *ghrita*, to the newborn result in promote health, growth, complexion & strength (immunity), *Panchgavya ghrita*, *Brahmi ghrita*, *Abhaya ghrita*, *Samvardhana ghrita* (effective in children with delayed milestones)^{xxxiii}.

Rasayanas:

Rasayana chikitsa means rejuvenation therapy. 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 as follows: nutritive function, immunomodulatory action, antioxidant action, anti-aging action, neuro-protective action, haemopoietic effect etc.

According to *acharya Charaka*, use of *rasayanas* results in disease-free long life (*dirghamaayu*), *smiriti* (recapitulating power), *medha*, *aarogyam* (healthy well being), *tarun vaya* (youthfulness), *prabha*, *varna* (complexion), voice, strength etc.^{xxxiv}

According to *Acharya Sarangdhara*, various drugs, diet and regimens which promote longevity by delaying aging (*jaranashanam*) and preventing diseases

(*vyadhinashnum*) are called *Rasayana* e.g. *amrita*, *guggul*, *haritaki* etc.^{xxxv}

Rasayana is that treatment which influencing the dhatus, *agni* and *srotansi* and *ojus* (e.g. fundamental aspect of body) etc.

Rasayana chikitsa boosts the *ojas* (immune system). *Rasayana* is the one that is concerned with the immunity enhancer.

Classification of Rasayanas

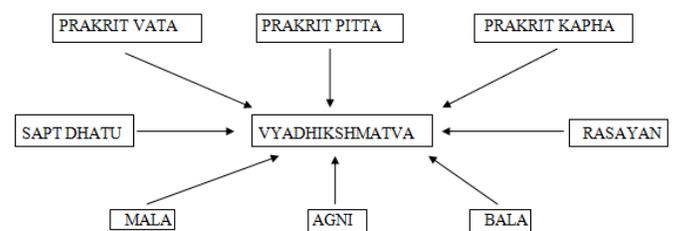
A) As per method of use by *Charaka*:

1. *Kutipraveshika* (indoor regimen): As per the needs of *rasayana*, Patient has to stay in a very specialized manner in the specifically made *kuti*.^{xxxvi}
2. *Vatatapika rasayana* (outdoor regimen): Person can use it while doing his/her normal duties and staying at his or her own home.^{xxxvii}
3. *Achara Rasayana* (mode of conduct) - Described in detail in *rasayana* chapter by *acharya Charaka*^{xxxviii}.

B) As per scope of use by *Sushruta*:

(*Sushruta Samhita*, *Chikitsasthana*, chapter 27-30, p.120-132)^{xxxix}:

1. *Sarvopaghatasamaniya* (*rasayan* formulation which counteract various diseases process)
2. *Medhaayuskamiya* (*rasayana* which increase intellect and longevity)
3. *Svabhavavaydhipratishedhaniya* (means delaying onset of *svabhavika* disease)
4. *Nivrittasantapiya*



Discussion

Immunity is a biological term that describes a state of having sufficient biological defenses to avoid infection, disease, or other unwanted biological invasion. Immunity involves both specific and non-specific components. The non-specific components act either as barriers or as eliminators of wide range of pathogens irrespective of antigenic specificity. Other components of the immune system adapt themselves to each new disease encountered and are able to generate pathogen-specific immunity (Anonyms, 2011). This may be correlated to *vyadhiksamatva*- resistance to diseases or immunity against diseases is of two kinds i.e. the one which attenuate the manifested disease and other variety prevents the manifestation of diseases.

Conclusion

Vyadhiksamatva- resistance to diseases or immunity against diseases is of two kinds i.e. the one which attenuate the manifested disease and other variety prevents the manifestation of diseases. It may be correlated to concept of immunity. *Sahaja bala* may be correlated to innate immunity. *Kalaja* and *yuktikrita bala* may be correlated to acquired immunity. All unwholesome food articles are not equally harmful, all doshas are not equally powerful, and all persons are not capable of resisting diseases. Over obese individual; over emaciated person; whose muscles and blood are diminished markedly; debilitated person; one who consumes unwholesome food; one who consumes less amount of food; whose mental faculties are weak; on the other hand, individuals having opposite type of physical constitution are capable of resisting diseases. Factors which contribute for *vyadhikshamatva* are normal *dosha*, equilibrium state of *dhatu*, normal *agni*, patency of *srotas* etc. or factors which supports the equilibrium state of all physiological

parameters. Innate immunity may be correlated to *sahaja bala* described in *Ayurveda*. Present article through light on the concept of immunity vis-a vis *vyadhiksamatva*. Author has collected many references regarding how to enhance immunity and keep body disease free by adopting *ayurvedic* principles. One who adopts *Ayurveda* principles in day today life will become free from diseases and can lead healthy and prosperous life.

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