AYURVEDIC CONCEPT OF IMMUNITY: A REVIEW

Dr. Asha Bhardwaj¹, Dr. Nikhila Ranjan Nayak², Dr. Chandrashekhar Ghatge³ and Dr. Shraddha⁴

¹¹²Prof. & H.O.D., Department of Roga Nidan Evum Vikriti Vigyan, Shri N.P.A. Govt. Ayurved College, Raipur Chhattisgarh India.
²¹³Reader & H.O.D., Department of Prasuti Tantra Evum Stree Roga Vibhag, Shri N.P.A. Govt. Ayurved College, Raipur Chhattisgarh India.
³¹⁴PG Scholar, Department of Roga Nidan Evum Vikriti Vigyan, Shri N.P.A. Govt. Ayurved College, Raipur Chhattisgarh India.
⁴¹⁵*Corresponding Author: Dr. Asha Bhardwaj

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. Vyadhiksamatva is described in Ayurveda and this concept is considered equivalent to immunity. Normal condition of kapha, Bala and ojas are also similar to immunity. Vyadhiksamatva literally means resistance (ksamatva) against disease (vyadh). Physical and mental resistance to disease is of enormous significance for all living being, it regulates both prevention against and rapid recovery from diseases. Ojas is final and excellence of the product dhatu and vyadhiksamatva depends on it. Innate immunity may be correlated to sahaja bala and kalaja bala may be correlated to acquired immunity. Here is a review of Ayurvedic texts regarding immunity and concept of Vyadhiksamatva which depends on normal dosa, equilibrium state of dhatu, normal agni bala and ojas etc.

KEYWORDS: Ayurveda, Immunity, Vyadhiksamatva, ojas, Bala.

INTRODUCTION
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.

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.[¹]

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. Vyadhiksamatva 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).[²] In Ayurveda, Ojas has been described as vital defense mechanism of the body. Ojas is final dhatu and vyadhiksamatva depends on it.

MATERIAL AND METHOD
This article is based on a review of Ayurvedic texts. Concept of Vyadhiksamatva described in various ancient samhitas, text book, internet and research papers will be analyzed thoroughly.

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).\[3\]

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 ahita 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).
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 injurious to eye & skin and promotes thirst.\[4\]

CONCEPT OF SHAKTI
It can be classified as below:
1. That requires for body growth and to perform the routine activities (energy).
2. That requires to protect the body against disease (resistance).
3. Balam: The improvement of the former may improve the latter and vice versa too. But at the same time these two may remain absolutely different.

The word bala, pusti, dardhya are seen mostly used with reference to ENERGY whereas the word OJAS and KSAMATVA are mostly refer to RESISTANCE. The word bala and ojas sometimes are seen used referring to both concept.

KSAMATVA
Hitakar substance lies in the body by way of Jatisatmya. The substance which lies in the body by way of permanent addiction is called Satmya. Ahita substances by being incongruent exert a hostile response by exciting the doshas and are called asatmya. However at the time such asatmya substances do not harm the body but remain dormant due to their regular and continuous usage in smaller doses. In the strong person with good virility, exercise and good digestive capacity, the said asatmya substances in small quantities cannot harm the body. The endurances or the capacity to withstand stress and strain of such individuals is called KSAMATVAM.

Chakrapani defined the same as the inherent capacity of the body either to avert the precipitation of the disease or to check its intensity to make the body withstand when afflicted by the disease. The following two aspects are concerned with such preventive capacity.

1. Unsuitable environment and seed sown in unsuitable land gets destroyed itself. The prakri vighata cikitsa in krimirogu is of similar concept.
2. Trnikarana bhava: It is some inhibiting factor present in the body which nullifies the attack.

The said unsuitable environment may be general (against several diseases) or specific (to a particular disease). The classical example for the latter is the Caraka’s mention that the horse drug treatment with vidanga and triphala kwatha prevents re-accumulation of intestinal worms. This is the reason why certain individuals seldom get diseases, if not spontaneous recovery without any treatment occurs.\[5\]

VYADHIKSAMATVA
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 power full, all persons arse not equally capable of resisting diseases.

Vyadhiksamatva is resistance to diseases or immunity against disease and 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 for example, vrihi type of corn is unwholesome because it aggravates pitta. The same become more unwholesome if consumed by marshy land (anupadesa) people the same become less harmful if consumed by dharmadesa people.

It is more unwholesome during sarad ritu (autumn season) and less harmful in hemant ritu (winter season).If it is consumed with curd, phanita (pendium) become more unwholesome and the same become less harmful if consumed with honey. If consumed hot it is more unwholesome and the same if taken in cold condition become less harmful. If consumed more in quantity become more unwholesome and become less harmful if consumed less in quantity.\[6\]
CONTRIBUTING FACTOR FOR 

**VYADHIKSAMATVA**

Factor which contributes for Vyadhiksamata are normal dosha, equilibrium state of dhatu, normal agni, patency of srotas etc. or factor which supports the equilibrium state of all physiological parameters. These points are described below. Equilibrium state of dhatu is called svastha. Upayogyo hetu (useful etiological factors) are those useful to the body and they indulge in protection of dhatus, which is important for homeostatic condition of body and mind. Aim and object of Ayurveda is the maintenance of equilibrium state of tissue elements. [^7]

Regular oil massage leads to strong body physique. Consumption of proper amount of food certainly helps the individual in bringing strength, complexion, happiness and longevity. An intelligent person should be vigilant about his duties towards his own body like an office in charge of a city and a charioteer towards the city and the chariot respectively. So, wise person should protect his body both externally and internally by adopting dinacarya in daily routine. The dosas are exceeding painful, acute and difficult to cure during their multiple combinations, if they require mutually contradictory therapies, if they are deep seated i.e. deeper dhatu like majja etc. are involved in the pathogenesis of disease. If disease is chronic i.e. it become very difficult to cure because they are deep seated and gives displeasure and disease becomes incurable. If dosa pranayatana are involved in the disease process along with other vital organ like hrdaya etc. then disease become difficult to cure. If vital organs afflicted, then disease become difficult to cure. If disease manifest instantaneously indicates disease become very difficult to cure. [^8]

**Mode of Mechanism**

Chakrapani described the vyadhiksamata and used the following word:
1. Vyadhiksamata
2. Vyadhi balavardhatvam
3. Vyadyutpadaka pratibhandhakakatva.

1. Vyadhiksamata as described above, it acts as innate immunity.
2. Vyadhi balavardha is developing specific immunity against the bala of a disease, that what we achieve by Naimittika rasayana. Improving strength against a specific disease that is to counter the vyadhibala.
3. Vyadhiutpadaka pratibhandhakatva which is elaborately described by chakrapani.

Vyadi utpatti is because of apathyta ahara vihara etc. If you plan to counter the vyadhi utpadaka hetu or cause pratibhandaka to the apathy, the disease process will be stopped, thus there is no progress of the disease. This is nothing but a mode of samprapti vighatana by which the disease is put down on its own. [^9]

Vyadhiksamata means one who is capable of resisting diseases. Depending on the nature of vatadi doshas and person who is not capable of resisting diseases suffers from diseases either mild or severe, acute or chronic. Person who is desirous of health should adopt the healthy practices related to diet, conduct and activities. Equilibrium state of dhatu is healthy and gives rise to pleasure.

**BALA**

Bala means strength. strength is required to perform vigorous physical work, to resist the power and to overcome the force of disease and decay. Bala is purely functional, depending upon the sama dosa, hetu and mala is an inherent factor, based on prakriti. Caraka says while stating the limitations of langhana that ‘Langhana should be done without disturbance to bala because ‘bala is the base of health. It indicates that the bala is an inherent factor derived from prakriti as well as built and maintained by sama dosa, dhatu and mala condition. Bala is also a synonym for kaptha dosa. Bala is only the power that controls the doshas or rogas. Vagbhata also states that bala is the strength that pacifies the dosa sushrata equated the bala even with ojas. All the positive function for preservation of health and deliver the function of dosa, dhatu and mala depends upon the bala. Basing on its functions bala can be studied in two aspects.

**Vyayamsakti**

Strength for performing physical activity, the strength of doing physical work depends upon sthithropchimatsa, well formed, compact and stable musculature. Dalhana futher clarifies bala as sarvadhatusaropachayalakshana with growth and development of all the dhatusara. It is indicating that the bala is the outcome of functions yielding from sarvadhatusara i.e. performance of acting by each dhatu and together is nothing but bala.

**Vyadhiksamata**

Vyadhiksamata is a power to resist and overcome the force or factors which bring about disease and decay. The word vyadhiksamata is under use since samhita and vedic age, which was used to represent the natural power of resistance against a disease.

Caraka says that all the bodies are not equally capable to counter or to resist the disease and decay. Sometimes body naturally heals without help of medicine eg. 1. Wound due to trauma or a cut injury- if you protect from dustahetu, it naturally heals without necessity of any drug. That capability of natural healing process is called vyadhiksamatva which is mostly inherent and sometimes acquired. 2. By putting on ‘Langhana’ in a case of jwara we are allowing the body to get amapacana itself. That disease countering capacity is Vyadhiksamatva. By enumerating the synonyms of Vyadhiksamatva, we will be knowing the multi dimensions of the vyadhiksamatva.


[^7]: [European Journal of Pharmaceutical and Medical Research](http://www.ejpmr.com)

[^8]: [Bhardwaj et al.](http://www.ejpmr.com)

[^9]: [Bhardwaj et al.](http://www.ejpmr.com)
In all living bodies there is a natural protective force which is called as prakriti rakshani. Ksamata means for strength, which has capacity to control its own self from a disease. Certain people will have natural resistance against a disease. Carak as quoted above, all bodies doesn’t possess equal capability. It varies from person to person, eg. In some person HLA molecule may be implicated in the pathogenesis. In other, the specific HLA molecule may be linked to a gene determining immune responsiveness to a particular antigen. Pratibalam means the strength of the body to counter the disease. If dhatu sara is sufficient enough, though exposed to a abhisangaja hetu, the disease manifestation will not take place in the body. If at all occurs, the body counters and arrests the progress of the disease. Kapha prakriti person may have more pratibala in comparison to other prakriti. Pratyanika balam means a specific immunity against a disease. Having immunity whether it is acquired or innate against a disease, is known as pratyanika bala, which we can say as specific immunity. Vikara vighata bhavas acts as speed breakers and cause obstacles in the progress of disease manifestation. After formation of vikara in the body, the body tries to break down the samprapti. The bhavas that produce the defense mechanism against a vikara are called as vikara vighata bhava. These are produced in the state of dhata samya and in good state of ojas. All the phagocytes mechanisms come under this category. 

STRENGTH IS OF 3 TYPES

1. Sahaja bala
2. Kalaja bala
3. Yukitikrta

1. Sahaja bala (constitutional) - It is an inherent characteristic property of an individual present since birth. It is because of equilibrium state of dosas. Bala or powers acquired through genetics i.e. hereditary, through parents, immunization from the mother during pregnancy are called as sahaja bala. Ayurveda mentions the disorders acquirable through bija dosa. The absence of those bija dosa disorders, are in another way enhancement of sahaja bala. Chakrapani says that inborn strength of physical activity and immunity comes under sahaja bala. The race, species, specific immunity is also come under sahaja bala. This type of bala or resistance to disease is stated to be prakrta, i.e. inherent genetics resistance existing in the individual’s body since birth. This increases along with the growth of the ‘sapta dathus’. It comprehends both sharira and satwa i.e. body and mind.

2. Kalaja bala (Temporary) - kalaja bala is dependent on seasoned age as of strength is observed in aadanakala, gaining of strength is observed, in visarga kala and middle age is considered as full of strength. This type of bala is influenced by the factors like seasonal variations and age of the individual. Bala is stated to be at its high peak level in the visarga kala, spreading over varsa, sarad and Hemanta rtus, which are known as sita or cool period. The bala acquired through seasonal climatic variations usually in cold climate, the working capacity of man increases rather than in hot and humid climates. Tiredness or fatigue occurs in balabhramsa in summer (Grismartu) is also the effect of kala. Visargakala is the best in giving strength to the humans either to do physical works or enhance immunity. Usually the person suffers less in the visargakala. Apart from the season, age factor also plays vital role in combating the disease. Adolescence or adults will have more strength in comparison with other age groups.

3. Yukitikrta bala (Acquired) – Acquired strength is dependent on healthy practices related to diet, activities etc. This type of bala refers to the induction of body’s resistance against disease by resort to appropriate nutrition such as meat, ghee etc. physical exercise, rest depletory, restorative and rasayana therapies in keeping with the seasonal requirements. Adoption of ‘Swasta vitta’ principles of Ayurveda along with achara rasayana also contributes to the growth of yukti krt bala. The strength or activity is acquirable through the intake of sarvarasa, satmya ahara, mamsa and sarpi etc, protein diet with requireable relaxation and exercise and using the rejuvenators. Sarvarasa ahara builds samadosa, samadhiyu and samamala which maintain the homeostasis of the body there by promoting the body strength and immunity. Regular and systemic use of relaxation and physical activity naturally relieves the stress there by harmonious condition of mind. Presently studies on this topic, increasing and building the immunity by keeping the mind in harmonious condition developed much and became a branch of medicine namely pschoneuro immunity.
**Ojas and immunity**

Ojas is the essence of saptadhatu and it is the seat for strength. Ojas is the essence of saptadhatu and it is the mala of sukra. The term ojas has been stated in Ayurvedic classics to stand, not only for sleshma but also for rasa and rakta. It is seen in addition that a reference has been made to two kinds of ojas viz ardhajani ojas and astabindu ojas by Chakrapani. These are important and significant in the context of vyadhi ksamatva interpreted both as vyadhikula vireddha and vyadhikula utpati vibhandhakatva. These two types of ojas have a direct bearing on body’s defense against decay, degeneration and infection. Caraka has made a mention of slesmika ojas, which according to Chakrapani is different from astabindu ojas. It is transported through the ojavaha dhananis. It is ardhjanali in quantity. Further there are two kinds of ojas i.e. 1. Para, 2. Apara. Caraka has also described para in the chapter Artha dosamahamulya. In this context Chakrapani says while commenting that the quantity of para ojas is 8 drops (astrabindu) and it is located in hrdaya. The seat of para ojas (ardhanjali) on the other hand is the ten dhananis connected with hrdaya. [20]

The Qualities of Ojas

Caraka has attributed the following qualities to slesmika Ojas. White, slightly reddish or yellow resembling the colour of ghee, sweet in taste like honey and has the smell of laja. [21] According to Sushruta Smaatka (cooling/watery) snigdha (viscous), shukla (white), sita(cold in potency), shhira(an ability to keep up the body organ in a perfect order), sara (permeating through), viviktam(best nutrition) mrdula(soft) mrtisa(slimy), pranayatana(seat of life) and uttama(best). While commenting on the functions of ojas Susruta has made a significant observation- The entire body with its limbs and organs is permeated with ojas and tat abhvasvasa shiriranta sarirani i.e. in the absence or deficiency of ojas in the body causes wasting, decay, degeneration and destruction. [22] The statement indicates the preservative nature of the apara ojas in preventing the decay of the body. Ojas is the sara i.e. essence of all dhatu. It is originated like honey gathered by bees from various flowers and fruits. Ojas is derived from all the ‘Sapthadhatus’ in other word all the dhatu contribute to the making of it. Ojas is param teja, which is the essence of all sapta dhatu, being located in the hrdaya, combines with rasa and circulates through the dhananis and perform the tarpana or prinanam of the entire body. Naturally ojas encapsulates in it the vital function of rasadi dhatu, since it is their essence. The bala of all dhatu is present in the organism from the time of fertilization of the shonitas by shukra due to its swakarma the natural power. The significance attached to slesmika ojas, its production and distribution viz-a-viz kapha and its role in the preservation, protection of the body against decay, degeneration and disease is described in the conditions by sushrut as; 1. Ojas-visramsa 2. Ojas- vyapat and 3. Ojas-ksaya. [23]

1. **Ojas Visramsa-** Visramsa means displacement from its normal place. Clinical features due to ojas visramsa are as follow-
   - Looseness of the joints.
   - Weakness of the body.
   - Displacement of the doshas from their respective seats.
   - Impairment in activities or sluggish behavior.

2. **Ojas Vyapat-** Vyapat means ojas gets vitiated by dusta dosha and dusya. General symptomatology due to ojas vyapat are as follows-
   - Stiffness and heaviness in body.
   - Swelling due to vata.
   - Discolouration or loss of complexion.
   - Exhaustion
• Stupor
• Excess sleep.

3. **Clinical features of ojas ksaya**- Decrease in its quantity
• Fainting
• Wasting of muscles
• Unconsciousness
• Delirium
• Death

**Ojas Vraddhi Laksana**
Increased ojas is responsible for unique growth, nourishment and promotes strength. *Rajayaksama* (tuberculosis), *madhumeha* (diabetes mellitus), *Panda roga* (anemia) these are few examples of diseases in which the power, production and distribution of ojas is affected. *Agantuja/adibhautika* factors like trauma, wasting diseases, fatigue, malnutrition due to *alpasana*, *visamasana*, emotional stress like anger, grief etc. obviously interfere with the production of the proper quality and in required quantity of *slesmika ojas* and its distribution to the various *dhatus* and organs. Thus ojas and immunity are interlinked. If ojas is in physiological state, there is no possibility of development of disease processes including infections like viral/bacterial etc. since the ojas is the *sara of saptadatus* and naturally impacts profound support and preservation.[24]

**Concept of improving strength**- The following factors which favors the promotion of strength.
• Births of a person in a country where people are naturally strong for example in ‘Sindh’ region people are strong by nature.
• Time factor which is conducive for *dhatu* and helps for promotion of strength.
• Excellency among qualities of *bijas* (sperm) and *ksetra* (ovum and uterus) of parents.
• Excellence of diet.
• Excellence of physique.
• Excellence of suitability.
• All mental faculties are superior.
• Natural mechanism.
• Young age.
• Exercise and such other physical activity promote strength.[25]

Always cheerful mood is also helpful to gain strength. Celibacy, sleeping in a place which is devoid of breeze, hot water bath, sleeping during night, physical exercises are best adjustable to all as a wholesome substance. Strength gives stability and maintains compactness of muscles, energy to perform all kinds of activities without any hindrances, clarity in voice and complexion, both *karmendriya* and *jnanendriya* performs their normal functions. Protection of health of healthy individual is very important.[26]

**CONCLUSION**
The main purpose and objectives of *Ayurveda* is the preservation of health in healthy individual and eradication of disease, which are curable. Here is a review of Ayurvedic concept of immunity which can be co-related with Ayurvedic concept of *Vyadhikshamatva* and normal condition of the *Kapha, bala* and ojas. Ojas is final and excellence of the product *dhatu* and *vyadhikshamatva* depends on it. Production of excellence of *dhatu* depends on the *Hitas* and *Ahitas* *Ahara* and *Agni*. Person who is having balanced proportion of muscle, compactness excellent sensory faculties never suffer from diseases. These people can easily withstand hunger, thirst, heat of the sun, cold and physical exercise. *Agni* performs normal digestion and metabolism activities. Person who is possessing excellence of all *dhatu* including mental faculties i.e. *sarva sara* are endowed with great strength, happiness and resistance to diseases. *Rasayana* therapy help in producing excellence *dhatu* and lastly it convert into *ojas*, ultimately increase in *ojas* and similarly increase in immunity. One who adopts Ayurvedic principles in day to day life will become free from diseases and can lead healthy and prosperous life.

**REFERENCES**
8. Dr. P.S. Byadgi, Chaukhambha Publications New Delhi, Edition-2018 Parameswarappa’s Ayurvediya
Bhardwaj et al. European Journal of Pharmaceutical and Medical Research

Vikrti-Vijnana & Roga Vijnana, vol-1, Chapter 15 page no-293.