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VYADHIKSHAMATVA: GENERAL CONCEPTS OF BALA (IMMUNITY) AND METHODS OF BALAVRIDDHI

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ABSTRACT

The word immunity implies the condition of assurance from irresistible illness. The immune system advanced as safeguard framework to shield creatures from attacking micro-organisms and threatening problems. Immunology is a part of biomedical science that covers the investigation of all parts of the resistant reaction in all living beings. The investigation of the molecular and cell segments that involve the immune system, including their capacity and association, is the focal study of immunology. Ayurvedic arrangement of medication manages regarding the sicknesses as well as expects to anticipation the illness. *Vyadhikshamatva* (Immunity) is depicted in Ayurveda and this idea is viewed as comparable to immunity. Thus an endeavor has been made to introduce Ayurvedic ideas of immunity and immunization.

KEYWORDS: Vyadhikshamatva, Bala, Agni, Rasayana, Lehana.

INTRODUCTION

Charaka characterized Ayus (life) as mix of the body, receptors, mind and soul. [1] In other word, Ayurveda has given a lot of need to carry on with sound and upbeat long life. Ideas identified with wellbeing and infections are talked about with detail in virtually all traditional writings of Ayurveda. These ideas incorporate information on etiology, symptomology, therapeutics, different measures to keep up with solid status and purposes for falling sick. Many individuals inclined to sickness because of bringing an end to their dietary propensity (Aharaja), change in environment, then again, a few group stay sound disregarding disrupting dietary guidelines or change in environment and don't get influenced by any infection. Numerous miniature life forms enter the human body through air and water, however neglect to make sickness because of insusceptible reaction present in the living body. The main thing comparable to wellbeing and sickness is insusceptibility of the body. Idea of Vyadhikshamatva (Immunity) depicted in the traditional writings of Ayurveda is like invulnerability. It isn't embellishment to specify that, Ayurveda portrayed Vyadhikshamatva in more detail and wonderful way which can be viewed as identical to present day ideas of resistance. Till date a few works have been found distributed on Ayurvedic ideas of Vyadhikshamatva, yet there are some more detail has still needed to be featured. Present work is expected to satisfy this hole and will fill in as a light conveyor in understanding resistance with Ayurvedic see.

Idea of Vyadhikshamatva

In Sanskrita, the word Vyadhikshamatva is comprised of two words; Vyadhi (infection) and Kshamatva (stifle or survive). As per Ayurveda, Vyadhi is conditions which appear as result of non-harmony between Doshas (physiological elements i.e vata, pitta and kapha), Dhatus (tissues frameworks) and Malas (excretory results of body). These components, in their ordinary status are capable in keeping up with the physical and mental wellbeing. The other word, Kshamatva is gotten from, "Kshamus sahane" which intends to be patient or formed to smother outrage, to keep very or to stand up to. Accordingly Vyadhikshamatva implies the factor which restricts the pathogenesis and goes against the strength of disease. [3] Chakrapani Datta, while remarking on Charaka Samhita, gave his view on the term Vyadhikshamatva and clarified the term in two divisions, viz^[4]:

- (i) *Vyadhi-balavirodhitvam*: It is the ability to limit or withstand the strength (seriousness) of the infections for example solidarity to oppose the advancement of illness.
- (ii) *Vyadhi-utpadakapratibandhakatva:* The opposing force of the body sufficiently equipped to forestall the event and re-event of the illness. These sub-sorts of *Vyadhikshamatva* commutatively structure the obstruction which now daily known as Immunity. There are nine variables referenced in Ayurveda which elevates body towards inadequacy to oppose the sickness sign for example factors answerable for diminishing immunity. [5] 1) *Ati-Sthoola* (Excessively hefty people)

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- 2) Ati-Krisha (Excessively withered individual)
- 3) Anivista-Mamsa (Individual having inappropriate musculature)
- 4) Anivista-Asthi (people having inadequate bone tissues)
- 5) Anivista-Shonita (people with inadequate blood)
- 6) Durbala (Constantly powerless individual)
- 7) Asatmya-Aaharopachita (Those supported with unwholesome food)
- 8) Alpa-Aaharopachita (Those taking eating regimen in little amount)
- 9) *Alpa-Sattva* (Individuals with weak psyche)

Relation of *Vyadhikshamatva* with different elements (1) Sleshma

Kapha is one of the Tridosha (three humors-Vata, Pitta and Kapha- which are supposed to be answerable for support of homeostasis or harmony in the body), which has properties like Snigdha (unctousness), Sita (cold, creating chilliness), Guru (hefty), Manda (moderate in real life), Slaksna (smooth), Mrtsna (foul) and Sthira (stable/static). [6] Sleshma in typical state considered as Bala and Oja while in strange state it is Mala (waste) and Papma (diseases).^[7] Function of ordinary Kapha resembles that of Ojas. Kapha in typical state gives smallness, security, substantialness, insusceptibility, gracelessness.^[8] opposition, mental fortitude and

(2) Hita and Ahita food

Some food substances are healthy and appropriate for the body as the body can inheritably move those substances into its own by goodness of *Jatisatmya*. These are called as *Satmya* or *Hita* substances. Water, ghee, milk and rice are not many instances of general healthy food as these are totally reasonable for each human. On the other opposite some substance don't exactly measure up for to the body and cause some unfriendly response. These are known as *Ahita* or *Asatmya* substances. Fire-consumes, salts close up, poison kills these are the instances of *Ahita* substance. There are three reasons seen for the evil impacts being available in *Ahita* substance for example regular innate element, physical or compound blend and refinement. [9]

Hita, Ahita Substance and Vyadhikshamatva

Hita ahara is capable to created sound Dhatus and end result of Dhatus for example Ojus. So increments in Ojus or Bala eventually increment Vyadhikshmatva. Then again, Ahita substance whenever taken ceaselessly then prompts ill-advised sustenance of Dhatus which bring about diminishing Ojus and Vyadhikshmatva.

(3) Relation of Bala and Vyadhikshamatva

Health of an individual relies on great strength of the body tissues. It is hard to treat the illness happened in one whose body strength is low^[10] and thus *Acharya Charaka* inclines toward the *Bala* (strength) assessment of a person prior to beginning the treatment. *Acharya Sushrutha* referenced that the last and phenomenal quintessence of *Dhatus* starts with *Rasa* to *Shukra* is

Ojus and this *Ojus* is supposed to be *Bala*. *Dalhana* has remarked on this as *Ojus* is the reason for transcendence of *Bala* of entire body. [11] *Acharya Vagbhata* likewise upheld perspective on *Acharya Sushruta* and referenced comparative idea which obviously demonstrates the nearby connection among *Oja* and *Vyadhikshamatva*. [12]

Kinds of Bala

It is of three kinds Sahaja (protected), Kalaja (worldly) and Yuktikrutajabala (acquired).^[13]

Sahaja Bala

Protected strength is the one which exists in the psyche and body from the very birth.

Kalaja Bala

Fleeting strength is the one which depends on division of seasons and age of the individual. In *Adana kala* (prespring, spring and summers) *Bala* of individual will be less and in *Visarga kala* (blustery seasons, pre-winter and winter) it will be more. *Bala* will be *Alpa* (least) in youngster and advanced age, *Uttama* (greatest) in youthful age.

Yuktikrutaja Bala

Gained strength is the one which is accomplished by the blend of diet and proactive tasks.

Elements liable for advancement of strength.

There are 12 components answerable for expanding *Bala* (strength) of the body.^[14]

- 1. Birth in a nation where individuals are normally solid.
- 2. Birth when individuals normally acquire strength for example *Hemanta* (November to January) and *Shisira* (January to March)
- 3. Positive affidavit of time (lovely and moderate environment)
- 4. Greatness in the characteristics of seed for example sperm and ovum, and *Asaya* for example legitimate anatomical and physiological status of uterus of mother
- 5. Greatness of the ingested food
- 6. Greatness of the constitution
- 7. Greatness of the *Satmya* (healthiness of different elements liable for upkeep of the body)
- 8. Greatness of the psyche
- 9. Good testimony of the nature
- 10. Youthful period of both the guardians for example they ought not be over matured
- 11. Ongoing execution of activity
- 12. Happy attitude and monstrous love for one another.

The people having a large portion of these components are normally insusceptible for example *Vyadhikshamatva* for sicknesses.

4. Connection between Agni (food absorption force of body) and Vyadhikshama

Acharya Charaka with regards to elements of Agni portrayed that, Dehagni or Jatharagni (stomach related force of stomach) is answerable forever, shading (brilliance of the skin), strength, wellbeing, excitement,

fullness, composition, Ojas (energy), Tejas (glimmer of the body), different assortments of Agni and Prana (imperativeness). Elimination of this *Jatharagni* prompts demise. Its appropriate upkeep assists an individual with carrying on with a long life and its hindrance leads to sicknesses. Subsequently Jatharagni is viewed as the root or the most significant supporting variable of living beings.^[15] In this manner invulnerability is affected by the force of Agni, stomach related fire and our capacity to process, acclimatize and assimilate supplements in human bodies. In a sound, solid and invulnerable body, intruders get killed or obliterated and ousted out of body. On the off chance that Agni is weakened by a lopsidedness inside, the Tridosha digestion will get influenced, safe reaction and regular opposition will likewise be brought down.

5. Connection among Oja and Vyadhikshamatva

As per *Acharya Charaka*, *oja* showed up premier in the human body during embryogenesis. ^[16] The pith of Saptadhatus (seven real tissues as from Rasa to Shukra Dhatu), for example: Rasa (plasma and lymph), Rakta (platelets), Mansa (connective and strong tissue), Meda (body fats for example fat tissue), Asthi (bones), Majja (bone marrow) and Shukra (conceptive frameworks) is called Oja and it is the seat for strength, henceforth called Bala. [17] Ojas is Sara (quintessence) of Dhatus finishing with Sukra; through situated in the heart, it overruns all over body and control the working of the body. It is thick, unctuous, oily, Somatmaka (dominant in watery head), clear (straightforward) and slight ruddy yellow in shading. By its misfortune (obliteration, nonattendance) passing will happen and by its essence the body (and life) sure to endure. *Oia* is the justification diverse condition and exercises related with the body. [18]

Ojakshaya (abatement or loss of Ojas)

Ojas goes through decline (in amount) by outrage, hunger, stress, misery and effort. With such abatement, the individual becomes unstable, incapacitated, stresses much once more (without clear explanation), feels inconvenience in the receptor, foster terrible composition, awful notice and dryness of skin. [19]

6. Rasayana (Rejuvenation treatment) and Vyadhikshamatva

Rasayana implies the way for accomplishing greatness in all body tissue through some exceptional measures and prescriptions. Rasayana treatment is one of eight significant claims to fame of Ayurveda. The ideas of resistance and immunomodulation are widely investigated and utilized in Ayurveda, especially as Rasayana therapy. According to Ayurveda, Rasayana helps in fortifying Oja, Bala and along these lines expands Vyadhikshamatva.

Advantages of Rasayana treatment

Long life (great), memory, extraordinary knowledge, amazing wellbeing, energy, splendid composition and shading strong voice and charitableness, increment

strength, of the body and receptor, flawlessness in discourse, sexual force and splendor are completely acquired from appropriate *Rasayana* therapy. [22]

Arrangement of Rasayana^[23] According to strategy for use

- 1) Kutipraveshika Rasayana (indoor Regimen)
- 2) Vatatapika Rasayana (outside Regimen)

As per reason

- 1) Aajasrika Rasayana (advertiser of wellbeing by some medication routine and can be devoured in all conditions)
- 2) Naimittika Rasayana (advertiser of explicit essentialness in explicit infection)
- 3) *Kamya Rasayana* (advertiser of wellbeing in explicit way in typical person)

Idea of further developing *Vyadhikshamatva* (Immunization)

Coming up next are appearing to be the inoculation measures in Ayurveda.

- 1. Rasayana
- 2. Lehana (Lickables or Electuaries)

Taking *Rasayana* is useful to expand the invulnerability of the individual to get him far from deft illnesses. The potential systems by which activity of *Rasayana* can be deciphered with current angles are; nutritive capacity, immunomodulatory activity, cancer prevention agent activity, against maturing impact, neuro-defensive activity, haemopoietic impact and so on As of late various investigates have been done to investigate Ayurvedic treasure for advantage of ordinary citizens to further develop wellbeing by utilizing diverse Ayurvedic drugs. A few models are:

- 1. Immunostimulatory impact of Curculigo orchioides. [24]
- 2. Macrophage actuation property of Tinospora cordifolia. $^{[25]}$
- 3. Effect of some Indian spices (Asparagus racemosus, Tinospora cordifolia, Withania somnifera and Picrorhiza kurrooa) on macrophage works in mice. [26]
- 4. Immunoprotection by Withania somnifera, Tinospora cordifolia furthermore, Asparagus racemosus during malignant growth chemotherapy. [27]
- 5. Immunopotentiating property of Tinospora cordifolia. [28]
- 6. Expansion of vague insusceptibility by gold preparations. $^{[29]}$
- 7. Hostile to cataleptic, against nervousness and stimulant action of gold. $^{[30]}$
- 8. Cell reinforcement movement of Momardica charantia, Glycyrrhiza glabra, Acacia catechu Furthermore, Terminalia chebula. [31]
- 9. Antioxidative impact of triphala (blend of Terminalia chebula, Terminalia belerica furthermore, Emblica officinalis). [32]
- 10. Antibacterial exercises of Emblica officinalis furthermore, Coriandrum sativum. $^{[33]}$
- 11. Antifungal movement of Curcuma longa. [34]

- 12. *Haridradi Ghrita* (Polyherbal cured *ghrita*) shows the Immunomodulatory movement (special incitement of the parts of cell-interceded insusceptibility) in rodents during a trail. [35]
- 13. Immunomodulatory movement of *Triphala* (blend of organic product mash of Terminalia chebula, Terminalia belerica furthermore, Emblica officinalis). [36]
- 14 .Cell reinforcement movement of tannoid standards of Emblica officinalis (*Amalaki*). [37]
- 15. Hostile to oxidant impact of Withania somnifera glycowithanolides in rat. [38]

There are number of such examinations through which Ayurvedic single or different definitions tried by exploratory investigations on pale skinned person mice/rodents and so forth or announced the advantageous impact of human path, So these examinations uncovers that there are wide scope of potential outcomes further developing resistance and treatment in different sickness.

The choice of Rasayana

As per need, *Rasayana* medications can be managed by considering different factors, for example: Age, *Dhatu*, *Deha Prakruti*, *Kala*, Disease^[39] to improve memory^[40] and *Srotas*^[41], (Table 1 to 7) *Medhya Rasayana* drugs are life-advancing, infection mitigating, advertisers of solidarity and force of insight.

Level of activity of Rasayana drugs

Rasayana act at three levels, for example: at the degree of *Poshaka Rasa* (expands sustenance), at the degree of *Agni* (builds processing and osmosis of food) and at the degree of *Srotas* (expands retention of food from serum to different pieces of body).^[41]

Lehana

In Ayurvedic messages, different *Acharays* have portrayed incalculable helpful plans and method of direct for youngsters. *Acharya Kashyapa* portrays an uncommon detailing by the name of "*Lehana*". [42]

The realities expressed about Lehana are as under -

Reasons for Lehana

- 1. To upgrades development and improvement by giving adequate sustenance.
- 2. Advance wellbeing, composition and strength (insusceptibility).
- 3. Shield from different diseases alongside further developing insight and discourse (deferred achievement).

Indication of Lehana

The offspring of a mother who are having no bosom milk, insufficient milk or vitiated milk of parturient ladies (mother) or of a wet – medical caretaker of comparative condition who have prevalence of *Vata* and *Pitta* however not *Kapha*, who don't get happy with the bosom milk and cry inspite of continued sucking, kids who don't rest around evening time, eat excessively, pass inadequate pee and excrement; youngsters who have expanded stomach related force, however liberated from illness yet scraggy, have fragile body part and withered, don't pass pee and defecation in any event, for three days; such kind of kids ought to be endorsed *lehana* (electuaries). [43]

Table 1: Rasayana drugs as per Age.

Decade of life (In years)	Loss of impact	Desirable Rasayanas
1-10	Balya	Vacha, Svarna
11-20	Vruddhi	Kashmari, Bala
21-30	Chhavi	Aamalaki, Lauha
31-40	Medha	Shankhapushpi
41-50	Twak	Jyotishmati
51-60	Drushti	Jyotishmati
61-70	Shukra	Aatmagupta, Ashwagandha
71-80	Vikrama	Aamalaki, Bala
81-90	Buddhi	Brahmi
91-100	Karmendriya	Bala Rasayana

Table 2: Rasayana as per Dhatu.

Dhatu	Rasayana dravyas
Rasa	Draksha, Kharjura, Kashmari
Rakta	Aamalaki, Palandu, Lauha
Mamsa	Haritaki, Guggulu, Guduchi
Meda	Laksha, Shukti, Shankha
Asthi	Aswagandha,Bala
Мајја	Lauha, Majja, Vasa
Shukra	Aatmagupta, Pippali, Nagabala

Table 3: Rasayana as indicated by Deha Prakruti.

Dosha	Rasayana dravyas
Vataja	Bala, Ghrita
Pittaja	Aamalaki, Shatavari
Kaphaja	Bhallataka, Guggulu, Pippali

Table 4: Rasayana as indicated by Kala.

Kala	Rasyana dravyas
Aadana Kala	Shita Virya – Laghu Guna- Aamalaki
Visarga Kala	Ushna Virya – Guru Guna – Bhallataka

Table 5: Rasayana as per Diseases.

Diseases	Rasayana dravyas	
Prameha	Shilajatu, Haridra, Aamalaki	
Aamavata	Bhallataka	
Medoroga	Guggulu, Haritaki	
Shvasa	Bhallataka	
Kushtha	Tuvaraka	
Pandu	Lauha	
Manasaroga	Medhya Rasayana	

Table 6: Medhya Rasayana (Nootropics drugs)

Drugs	Part used
Mandukaparni	Swarasa (juice)
Yashtimadhu	Churna (powder)
Guduchi	Swarasa (juice)
Shankhapushpi	Kalka (paste)

Table 7: Rasayana as indicated by Srotas.

Srotas	Rasayana dravyas	
Pranavaha Srotas	Pippali, Bhallataka, Aamalaki, Maricha, Kasturi	
Udakavaha Srotas	Panchakola, Kapardika, Shankha bhasma, Hingu, Nagakeshar	
Rasavaha Srotas	Kharjura Manth, Laja Manda, Guduchi	
Raktavaha Srotas	Lohabhasma,Go-Ghrita,Gorochana, Kushthaghna dravya	
Mamsavaha Srotas	Karaskar, Svarna bhasma	
Medovaha Srotas	Guggulu, Shilajatu, Kumbha	
Asthivaha Srotas	Aabha	
Majjavaha Srotas	Vacha, Markava, Raupya bhasma	
Sukravaha srotas	Cow milk, vang bhasma	
Mutravaha Srotas	Shilajatu,Gokshura,Punarnava	
Purishvaha srotas	Kutaj,Bilwa,Haritaki	
Swedavah srotas	Vanga bhasma	

Contraindications of Lehana

Conditions, for example: kids having helpless stomach related force, drowsy, passing exorbitant (in amount and number) measures of pee and stool, have heartburn, get *Guru* (substantial) bosom milk, the mother burning-through all *Rasas*, experience the ill effects of infection of head and neck, in *Amaroga* (illness of digestion), fever, the runs, *Shotha* (edema), jaundice, paleness, cardiovascular sickness, dyspnea, hack, illness of rectum, urinary bladder and midsection, tooting, *Ganda* (developed thyroid), erysipelas, regurgitating, anorexia, all *Graha* sickness and *Alasaka* ought not be recommended *lehana*. Different compound and definitions for *lehana* referenced by *Acharyas* to build stomach related and metabolic force, strength is summed up underneath in short^[43]:

A. Acharya Kashyapa

- 1. Svaran Prasana Pure gold (in little amount) is focused on water on a perfect stone and given with nectar and Ghrita, be given to youngster for licking. Licking of gold increment mind, stomach related force and metabolic force, strength, gives long life, is propitious, upright, Spanish fly, increment appearance and end the (abhorrent impact of) Graha. [43]
- 2. Samvardhan ghrit
- 3. Brahmi ghrita

B. Acharya Charaka

1. Panchagavya ghrita^[44]

(Ghrita implies explained spread produced using cow"s milk)

2. Brahmi ghrita^[45]

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3. Kalyanaka ghrita^[46]

C. Acharya Sushruta

Acharya Sushruta has referenced 4 plans (containing gold) which give general insusceptibility, body obstruction, supportive in development and advancement and upgrading the intelligence. [47] These are:

- 1. Svarna bhasma with Kustha (Saussurea lappa), Vacha (Acorus calamus), Madhu (nectar) and Ghee.
- 2. Svarna bhasma with glue of Brahmi (Bacopa monnieri), Sankhapuspi (Convolvulus pluricaulis), with Nectar and Ghee.
- 3. *Svarna bhasma*, *Arkpushpi* (Holostemma annularium), *Vacha* (Acorus calamus), Nectar and *Ghee*.
- 4. Svarna bhasma, Khaidarya (Murraya koenigii), Sweta Durva (Cynodon dactylon) and Ghee.

D. Acharya Vagbhata

- 1. Ashtanga ghrita
- 2. Sarshvata ghrita
- 3. Vachadi ghrita
- 4. Blend of gold
- a) Svarna (Gold), Vacha (Acorus Calamus), Kushta (Saussurea lappa)
- b) Svarna (Gold), Arkapushpi (Holostemma annularium)
- c) Svarna(Gold), Matsyakhyaka (Alternanthera sessilis), Shankhapushpi (Convolvulus pluricaulis)
- d) *Svarna* (Gold), *Kaidarya* (Murraya koenigii Linn), *Vacha* (Acorus Calamus)^[48]

DISCUSSION

Vyadhikshamatva - protection from infections or resistance against illnesses is of two sorts for example the one which constrict the showed infection and other assortment forestalls the indication of illnesses. Sleshma in ordinary state considered as *Bala* and *Oja* and capacity of typical Kapha like that of Ojus. Agni (food absorption force of body) is significant for appropriate processing of diet. Legitimate sustenance of *Dhatus* will be relies upon healthy and unwholesome food. Doshas are vitiated because of keep taking unwholesome food eventually creation of great pith of Dhatus i.e Ojus isn't finished. Last and phenomenal substance of *Dhatus* starting with Rasa to Shukra is Ojus and that Ojus is supposed to be Bala. The idea of Vyadhikshamatva is connected with Kapha, Bala, Agni and Ojas. Ayurvedic Rasayana treatment considering the ideas of present day immunology, especially the immunomodulation will be very fulfilling. Many exploration chips away at the Rasayana drugs are successful in further developing invulnerability and forestall the sickness as antibacterial and antifungal. Lehana is likewise useful for the strength, knowledge and eventually work on the invulnerability. Such endeavors may achieve genuinely necessary coordination of customary Indian Avurveda and current logical medication and help in the advancement of an all encompassing methodology towards human wellbeing.

CONCLUSION

Ayurvedic idea of *Vyadhikshamatva* is simillar as typical state of the Kapha, Bala and Oja. Oja is conclusive and greatness of the item *Dhatu* and *Vyadhikshamatva* relies upon it. Creation of greatness of Dhatu relies upon the Hita and Ahita Ahara and Agni. Rasayana treatment help in produce greatness Dhatu and finally it convert into Oja, ultimetaly expansion in Oja and comparably expansion in insusceptibility. Many investigates demonstrated immunomodulatary impact of medications which are utilized in Rasayana treatment. Medhya Rasayana (Nootropics drugs) is life-advancing, illness easing, advertisers of solidarity, Agni, composition, voice and insight advancing. Lehana will be additionally useful in the further develop insusceptibility. Henceforth, for achieving great Vyadhikshamatva, we should utilize different regimens and follow conducts as portrayed in Ayurvedic messages for something very similar.

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