

CONCEPT OF IMMUNITY IN AYURVEDA**Swaranjali Jangde^{1*}, Anita Sharma² and Rajesh Singh³**

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Article Received on
15 May 2020,

Revised on 05 June 2020,
Accepted on 25 June 2020

DOI: 10.20959/wjpr20207-17976

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ABSTRACT

The covid-19 pandemic crisis has turned the world's attention to immune system, the body's defense force against disease. Now immunology has become fastest growing disciplines in medicine and biology. Ayurveda is oldest science of life and health care in world; it is interesting to know that in this ancient Ayurvedic text there is so broad explanations and description about immunity. During outbreak of an infectious disease many people get infected at same time but some of them remain healthy because of resistance against the cause of illness within them. Ayurveda system of medicine to only deals with treating the disease but also aims to prevention and pays larger emphasis on building strength of mind and body to cope with various

stressors, including infection. Similar to innate and acquired immunity, vyadhikshamatva concept is considered equivalent to immunity (bala or strength) classified as natural (sahaj) chronobiologic (kalaja) and acquired (yuktikrit). This article critically reviews the available literature to evaluate ancient concepts of Ayurveda immunology and immunity in the light of recent need.

KEYWORDS: Ayurveda, immunity, covid-19, vyadhikshanatva.

INTRODUCTION

The corona virus pandemic is unique and unprecedented in several aspects and has challenged health care system. The current prophylactic measures are insufficient, and are

still under investigation. Ayurveda being traditional can be really a global hunt for various measures for prevention and treatments. Research and therapeutic strategies have focused on agents to attack the virus or immunize against it, and most important factor to consider for this is the dynamics of host body. Ayurveda pays particular attention to various measures for a healthy lifestyle rather than prescription of medicine. The classics of Ayurveda define immunity as the ability to prevent disease and arrest its progress to maintain homeostasis.

The concept of building strength of mind and body to cope with various stressors, including infection, is cornerstone of Ayurveda practice. The concept of vyadhikshamatava or bala is very vast, and it depends upon the overall strength of three Doshas^[1] vata, pitta, kapha they should remain in normal physiological state, the body's resistance is of tremendous importance for prevention and rapid recovery from diseases. The power of individual to prevent the onset of a disease or to resist the severity of a developed disease is called vyadhikshamatva.^[2]

MATERIALS AND METHODS

To review Vyadhikshamatva and immunity described in Ayurveda various available information in Samhitas textbook journals articles and websites all are gathered here to make it optimum to understand the full concept.

Concept of Vyadhikshamatava

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 power of body, which prevents the development of disease or resist a developed disease is called immunity (Vyadhikshamatva). Term will be easier to get if we frangnat it vyadhi and kshmatava, were vyadhi is roga i.e. disease and kshamatav is capacity to resist it by an individual, it implies a resistance against the loss of the integrity, proportion and interrelationship amongst the individuals. various factors contribute toward immunity are ormal doshas, equilibrium state of dhatus, normal agni, patency of srotas etc.^[3] along with qualities of blood, tissues, intercellular fluids, lymph.^[4] Immunity in Ayurveda can be understood by three terms that is Shleshma, Bala, and Oja.

Shleshma

Shlehma in normal state is bala and oja , sleshma in abnormal state is mala and papma.^[5] function of normal kapha which performs the factions like strength, protection, growth, resistance like that of oja.^[6] Kapha being one of the three doshas in our body are said to be

responsible of maintenance of homeostasis or equilibrium in the body. Much more than just immunity it includes even physical and mental strength. All protective mechanism that helps in reducing the vulnerability of an individual to all possible assaults.

Bala

Acharya sushruta state bala as which imparts integrity to the muscles improves the voice and complexion and helps the person to perform his natural functions^[7] three type of bala vyadhikshamatva in Ayurveda are 1 sahaj, 2 kalaja, 3 yuktikrita.^[8]

Sahaj bala innate the constitutional strength present since birth. It depends on the healthiness of shukra and artava. According to Ayurveda concept of genetics, if two parents genetic makeup is healthy, similar ealty status is acquired by children.^[9] this concept indicates congenital abnormalities which occur due to abnormal changes at genes or chromosomal level.

Kalaja bala accordingly with time seasOn ritu and age etc are the factors responsible for enhancing immunity strength is assumed to b greater in the early morning, spring, and yuvaaawastha than in evening, summers and old age.^[10]

Yukrit bala acquired Ayurveda focuses on various plans for acquiring immunity other than sahaj n kala. proper like suitable wholesome ahara, rasayan, vaajikaran drugs performing exercise with proper method and using different beneficial yoga.^[11]

Ojas

According to charka during embryogenesis the oja appeared foremost in the human body The essence of saptadhatu means the seven bodily tissues as from rasa to shukra dhatu e.g. Rasa rakta, mansa, meda, asthi, majja and shukra is called oja^[12] and it is the seat for strength called bala There are three categories of Bala dosha or disorders of bala which are comparable to three categories of immune disorders such^[13] as 1.Oja-vyapat (immune-aberrations and allergies), 2.Oja-vistransa (dislodged immunity and autoimmune disorders) and 3. Oja-kshaya (immunodeficiency) as the basic nature of these three categories of baladosha is specifically different there has to be different approaches to their diagnosis and treatment. In case of oja-vyapat there is a need to curve the excessive immune response therapeutically. In case of oja-vistransa^[14] where immune strength is dislodged there is a need to plan samsodhana to cleanse the channels so that the ojas is restored back to its normal site.

In case of oja-kshaya^[15] where there is clear immunodeficiency a wise physician should administer rasayana remedies and good nutrition to replenish the ojas system leading in turn further to improved ojabala. Ojas has been considered vital in the defense mechanism of the body. It resides in the heart hridya but also circulate all over the body and maintains healthy status of the person, if this is lost, life is also lost and if this continues life also. In condition like madhumeha a shosha where depleting of ojas occur and people are known to be susceptible to various recurrent infections Para oja this is ashta bindu in quantity, if decreases then person will die. Apar oja this is ardhanjali oja, if decreases vitiated manifest abnormalities. It is snigdha and somatmaka in nature though geminately white in color has got some yellowish and whitish tinge, ten great blood vessels connected to heart carry the rasatmaka ojas on which the whole life process itself is dependent. Substances which have opposite qualities to those of bodily tissue or deha dhatu pratyani bhuta when gain entry into the body encounter the opposition by the deh dhatu prakriti,^[16] it points that immune system of person attacks any antigen, which has gained entry into the body, acharya charka clearly enumerated people who are prone to various types of diseases or infections are.^[17]

Over obese individual (atishtu)

Over emaciated person (atikrisha)

Whose muscles and blood are diminished markedly (anavasthitmashasonitaasthni)

Debilitated person (durbala)

One who consumes unwholesome food (astamya aharsevi?)

Whose mental faculties are weaker (alpasatva?)

In Ayurvedic texts various acharya described countless useful dravya formulations mode of conduct for adults to enhance immunity. Acharya have also mentioned about favorable factors for growth of body in every way are opportunity, favorable natural endowment, excellence of diet and freedom from retardation.^[18]

Promoting ojas-status and vyadhiksamatva

In view of the immune status of an individual being an important factor for conservation of health and prevention of disease, Ayurveda deliberates extensively on positive health

measures such as life-style management, healthy dietetics and rejuvenation therapy with the help of a range of micro-medicinal nutrients called Rasayana. A rasayana remedy promotes nutritional status of an individual through qualitative changes in bodily cells and tissue leading in turn to improved bodily function, promotion of health and prevention of disease as well as longevity. All individuals are not equally and always empowered with immunity.

These rasayanas are considered the therapeutic means of obtaining the best quality of dhatu through micro-nutrition dynamics. It is believed that a rasayana acts at one or all of the following levels namely: 1. at the level of rasa directly enriching the nutritional value of plasma. Such rasayana are essentially nutrients in themselves. 2. At the level of Agni some rasayana such as pippali and shunthi work as digestive and metabolic boosters and lead in turn to improved nutritional status. 3. At the level of srotas some rasayana like guggulu and haritaki promote systemic nutrition by way of sroto-prasadana or as promoters of micro-circulation and tissue perfusion. All such situations promote nutritional status of an individual with improved quality of cells and tissues in the body, longevity, immunity and superior health both physical and mental. In this entire process ojas is the basic matrix and all rasayana are supposed to be oja-vardhaka remedies. Ayurveda which is comparable to nutrition science, immunology and geriatrics all interlinked together. Thus ayurveda immunology is a continuum of vital nutrition.

Various codes of conduct are described for each person of any age to follow in different seasons, during healthy and diseased condition in terms of dietetic (acharya) and mode of life.^[19]

- For outcome of healthy fetus-follow garbhini masanumasic paricharya punshwana karma.
- To promote health of infant- lehana karma, variousmedhya rasayana.
- Following swasthavritta paripalan dincharya, ritucharya.
- Proper wholesome nutritious diet (satmyaahara)
- Regular proper sleep nidra, yoga, asana
- Adopting sodhana panchkarma according to ritu in swastha purush^[20]
- Following achar rasayana, for promoting mental health.

Ayurvedic immunity promoting measures^[21]

1. Take Chyavanprash 10gm (1tsf) in the morning. Diabetics should take sugar free Chyavanprash.

2. Drink herbal tea / decoction (Kadha) made from Tulsi (Basil), Dalchini (Cinnamon), Kalimirch (Black pepper), Shunthi (Dry Ginger) and Munakka (Raisin) - once or twice a day. Add jaggery (natural sugar) and / or fresh lemon juice to your taste, if needed.
3. Golden Milk- Half tea spoon Haldi (turmeric) powder in 150 ml hot milk - once or twice a day.

Simple ayurvedic procedures

1. Nasal application - Apply sesame oil / coconut oil or Ghee in both the nostrils (Pratimarsh Nasya) in morning and evening.
 2. Oil pulling therapy- Take 1 table spoon sesame or coconut oil in mouth. Do not drink, Swish in the mouth for 2 to 3 minutes and spit it off followed by warm water rinse. This can be done once or twice a day.
 3. During dry cough / sore throat 1. Steam inhalation with fresh Pudina (Mint) leaves or Ajwain (Caraway seeds) can be practiced once in a day.
 4. Lavang (Clove) powder mixed with natural sugar / honey can be taken 2-3 times a day in case of cough or throat irritation.
- Use of various drugs to fulfill necessary deficiencies in deficient dhatu, proper utilization of sense organ with their objects, jeevaniya, brihaniya, balya drugs.
 - Rasayana therapy it promotes and rejuvenates the physiology of body produces resistance against diseases both physically and mentally. Use of this results in free long life, (dirghayu), recapitulating power (smriti), (medha), healthy well being (aarogyam), (tarun vyaya) youthfulness, prabha varna complexion, voice, strength etc.
 - According to need, Rasayana drugs can be administered by considering various factors such as Age, Dhatu Deha Prakruti, Kala, Disease^[22] to enhance memory.^[23] and Srotas, 24 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)

DISCUSSION

Thus the ancient Ayurvedic texts have described the basics of a unique holistic immunology interlinked with tissue nourishment, ojas formation as the biological determinant of vital bio-strength and immune strength in an individual. Ayurvedic immunology is not merely limited to antigen antibody phenomenon in infective diseases and immune-degeneration rather it is involved in maintenance of positive health in general including homoeostasis, resistance against disease, longevity and stress tolerance with an inherent bond with the nutritional status of an individual. The texts present a very comprehensive account of the Ayurvedic science of nutrition, longevity, immunity against disease and stress coping ability, all in one sweep in its Rasayana Tantra which is one of the eight major specialties of Ashtang Ayurveda. Thus Ayurvedic immunology has strong potential to enrich the contemporary immunology with its pro-nature individualized holistic approach which is very much missing in modern immunology with dominant pathological face and limitations of its reductionist approach. Ayurveda emphasis on the role of Doshas and their imbalance as the main causative factor of the diseases assumes importance in the light of the fact that mere presence of causative organisms in the environment does not necessarily results in the manifestation of the disease. The concepts of Ojas and Bala, of the inherent immunological capabilities including innate immunity and acquired immunity in terms of Sahaj bala and Yuktikritabala etc., playing key role in the health and disease have to be understood and appreciated by the modern immunologists.^[25]

CONCLUSION

Concept of vyadhikshamatwa (immunity) has been widely described in detail in Ayurvedic texts because the main goal of Ayurveda is to optimize the health an individual and cure disease. To preserve health, one has to have a strong vyadhikshamatwa to combat deadly etiological agents. It can be achieved by two means i.e. innate immunity resulting from a general process rather than a process directed at specific disease organisms. Factors like sahaj bala (natural strength), swabhasamsiddhi (natural factors), bijakshetragnasampacca (inherent qualities) etc. decide the nature of innate immunity.^[26]

Acquired immunity means the human body has the ability to develop extremely powerful specific immunity against individual invading agents such as bacteria, viruses, toxins, or even impure foreign tissues from other animals. Immunity can be enhanced by Proper nourishment of Dhatus will be depends on wholesome and unwholesome food. Doshas are vitiated due to

continue taking unwholesome food ultimately production of excellent essence of Dhatus is oja Rasayana therapy in light of the concepts of Modern immunology, particularly the immunomodulation will be quite rewarding.

Many research works on the Rasayana drugs are effective in improving immunity and Prevent the disease. It is necessary to enhance the vyadhikshamatwa of an individual to become resistant to any etiological agents. Equilibrium of ojas, Agni, Srotas, Doshas, and Dushya along with the associated pleasant state of soul, sensory organs and mind is essential for good health. Regulated food, sleep and celibacy are the golden triangle for excellent holistic health.

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