

VYADHIKSHAMATVA AND VARDHANOPAAAY IN CHILDREN -A REVIEW ARTICLE

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ABSTRACT

Vyadhikshmatva or bala is body's resistance to fight against disease. It is correlated with immunity in modern science. As prevention is better than cure, it is better to defend our body against all diseases. In some cases (like COVID 19) immunity is our only weapon. As balya avastha (childhood) is state of immature bala and dhatu, children are more susceptible to get infected hence it's important to enhance and empower children's immunity. It has two aspects. 1- Vyadhi utpadaka pratibandhatva – The bala which prevent the disease. 2- Vyadhi bala virodhitva– The bala which fights with disease. There are several types of Vyadhikshamatwa (Bala) –Sahajbala, Kalaj bala and Yuktikrut bala. Similarly, the immune system is comprised of both the innate and

adaptive responses. The innate immune system is comprised of physical barriers that help prevent pathogen entry, antimicrobial peptides, the complement system, and a variety of phagocytic and other cells. The adaptive immunity is that occurs after exposure to antigen either from pathogen or vaccination. Suvarnprashan and Vaccination of child is utterly important in enhancing immunity in many ways. Probiotics, Micronutrients including iron, zinc, vitamins A, C, D, and E (Antioxidants) have ability to modulate the host immune functions, they are essential for the normal functioning of the immune system. In *Ayurveda* there are several ways mentioned to enhance immunity- *Aushadhi*, *Rasayana*, *Aahar* (*aahar dravya*, *Ashta aahar vidhi visheshayatan*), *Vihaar* (*dincharya*, *Yoga*, *nidra*), *mansika bhava*, *Oja*, etc. *Ayurveda* has also explained ways to enhance child's bala by taking measures before conception, during pregnancy and just after birth of child. Maternal nutritional status during pregnancy and the nutrients to which infants are exposed through breast milk (which

also contains IgG and IgA antibodies) and complementary foods influence infant immune system development.

KEYWORDS: Immunity, Probiotics, *rasayan, Aahar, Vihaar, Manas bhav, oja*, Breast milk.

INTRODUCTION

Children are the future of our generation, and it is our responsibility and duty to help them grow, nourish and cherish their ability and skills. In order to do that being healthy is very important for them. On an average, child who is getting sick frequently or getting hospitalized frequently, lack physical, mental and social development compared to healthy child of that age.^[1] It is necessary to take all necessary measures to keep them healthy importantly by enhancing immunity.

Especially in this era of COVID 19 pandemic, as the emergence of the disease in new forms including anticipated scenario of third wave of covid-19 more likely to affect children and many seasonal viral infections. Where no effective preventive and curative medicine is available, a healthy immune system is one of the most important weapon. Children are more susceptible to get infected hence it's important to enhance and empower their immunity.

IMMUNITY

The immune system is important part of our body which keeps us healthy; it recognizes microorganisms and other foreign material and eliminates them with appropriate response. There are two major components of immunity, the innate immune system and adaptive immune system.^{[2][3]} The innate immune system is comprised of physical barriers that help prevent pathogen entry (e.g., skin, gut epithelium), antimicrobial peptides, the complement system, and a variety of phagocytic and other cells (e.g., neutrophils, macrophages, natural killer cells), that recognize the presence of pathogens and eliminates them. The innate system is primitive, nonspecific, has no memory and provides the first line of defence. The adaptive immunity responds through cooperation between lymphocyte and antigen presenting cells. This immunity can be enhanced, trained and empowered in its strength. There are several types of immunity like active immunity, passive immunity, constitutional or cell mediated, humoral, specific non specific, etc.

In Ayurveda the concept of immunity is elaborated as Vyadhikshamatwa.

व्याधिक्षमत्वं व्याधिबलविरोधित्वं व्याध्युत्पाद प्रतिबन्धकत्वमिति यावत्⁽⁴⁾

It means the power of body to check the progress occurrence or recurrence of disease. Vyadhikshamatwa is also referred as *Shleshma, Bala or Oja*.

It has two aspects.

- 1- *Vyadhi utpadaka pratibandhatva* – The bala which prevent the disease.
- 2- *Vyadhi bala virodhitva* – The bala which fights with disease.

There are several types of *Vyadhikshamatwa (Bala)* – 1. *Sahaj bala* – The bala which exist from birth.

2. *Kalaj bala* – The bala which changes according to surroundings, according to season (strong bala in *shishir rutu and hemant rutu, moderate in vasant rutu and sharad rutu and less in varsharutu and grishma rutu*. According to age (childhood and old age has less bala, adulthood has more bala).

3. *Yuktikrut bala* – The bala which can be increased by appropriate measure.

Oja^[5]

The essence of all saptadhatu is called Oja and it is the core strength of body, hence called bala. Hence it is also referred as Vyadhikshamatwa. It has many qualities like viscous, oily, greasy, Somatmaka (preponderant in watery principal), clear (transparent) and slight reddish yellow in colour. It is predominantly situated in heart. Loss (destruction, absence) of Oja may lead to death and its presence in the body (and life) helps body to function well and survive. Oja and bala have cause and effect relationship (chakrapani).

Ways of Enhancing Immunity

Vyadhikshamatwa vardhan can be done with different perspectives towards body and its constitution, more importantly by empowering Oja. Balak is state of asampurna dhatu bala^[6]; hence its Vyadhikshamatwa is weak compared to adulthood. It can be enhanced by sarva dhatuposhan and resulting into ojavardhan. To achieve Sarvadhatuposhan, we need to establish its poshan pathway, which includes jatharagni, dhatvagni and poshakansh. Jatharagni is essential to convert aahar into poshakansh. The poshakansh (aahar-rasa) will be provided for the formation of dhatu. Similarly dhatvagni is essential for dhatu nirman, dhatuposhan and subsequent dhatuposhan. In this manner sarva dhatuposhan occurs.

Consumption of satvik aahar, good balanced diet with rich in all micronutrient, vitamins and sarvrasa yukt aahar provide good source for dhatuposhan. It can be achieved by consuming Rasayana aushadhi, milk (ksheerprayog), maansras, etc.

Immunity can be increased at different stages of life. According to concept of Vyadhikshamatwain ayurveda, it can be enhanced and empowered throughout lifetime. More importantly it can be enhanced before birth and even before conception.

Before conception – For swastha (healthy) and Dirghayu (long life) children, Garbhadhan vidhi has been explained in kashyap samhita.^[7] Garbhadhaan occurs by shukra and aartav sanyog. For uttam santan prapti, shudha shukra and shudha aartav sanyog is necessary. To achieve this, before conception both parents should prepare their body by sharir shuddhi with ayurvedic panchakarm and healthy, sarva-dhatuposhak aahar; and mind by keeping satvik manobhav with true intension of garbhadhan for sarva guna sampanna putraprapti.

During pregnancy – Nourishment of fetus depends on mother's nutrition that phenomenon is called garbhposhan. Childs health depend on mothers nutrition status similarly its immunity and sarvangin bala depends on Garbhaposhan. In ayurveda monthly development of fetus elaborated as in masanumasik vridhi, in which development of fetus (garbha) in each month explained. In order to provide vishesh bala to that developing organ in that particular month specific diet and herbal drugs can be given. For example, "Shashte budhhi" means fetus brain develops in 6th month of pregnancy so we can use medhya drugs in that month for garbhini. Similarly all dhatu and sharir sampurn aahar and aushadhi can be used to enhanced garbha bala and hence enhancing immunity. During whole pregnancy general guidelines to be followed are given in ayurveda as Garbhini paricharya. For betterment of garbha, Garbhasanskar can be used.

Perinatal period - For healthy infant, birthing of baby should also be healthy. Many neonates get infected during birth if proper hygiene and sterility is not maintained. Early life infection can cause lifelong damage to Child's health as well as its growth and may even result in death.

Hence sukhpurvak prasuti is main contributing factor for bala of neonate.

Neonatal period - Matrustanya is the main source of energy in neonatal period, hence matruposhan is very important at this stage of life.^[8] Feeding mother should have satvik

aahar, well balanced diet and should have sound mind with affection towards baby. Sutika paricharya mentioned in ayurveda has great importance, which assures health of mother as well as baby. Matrusterity is compared with Amrut (immortality) in Ayurveda.^[9] It is essential for balaposhan and it helps build strength, immunity and normal growth and development of child. Matrusterity is also balya, rasayana, chakshushya (nourishment of eyes), deepan (helps digestive system), medhvardhak (brain tonic) and defends body from all diseases.

Maternal nutritional status during pregnancy and the nutrients to which infants are exposed through breast milk^[10] and complementary foods influence infant immune system development. Micronutrients, including iron, zinc, vitamins A, C, D, and E exert important influences on immune system development during the neonatal period. Given that the immune system of neonates is immature and not fully functional, their susceptibility to infections and ability to respond appropriately is impaired. They are protected against infections through passive immunity by IgG and IgA antibodies, transferred from the mother through the placenta (last trimester of pregnancy) and the breast milk.

Infantile age

The Lehan vidhi is carried out in this age for the purpose of balak swasthya and enhancing bala and budhhi. Any food item that can be licked is called lehan.^[11] It is palatable for this age group and can be administered easily. Suvarnprashan^[12] avleha is most common and most effective avleha which helps build immunity, medhya (brain tonic), improves appetite, helps digestive tract well functioning and improves bala. It also has rasayana effect, maintain positivity of child (satva guna vardhak) improves health and life. Suvarnprashan is immunomodulatory technique and it is being used since ancient times. It contains small amount of suvarna (gold), honey and ghrita. It is advised to take Suvarnprashan from birth to 16 years of age. Honey is used primarily in all lehan due to its palatability and power to create resistance against allergic response towards pollen grains (As it is collected by bees from pollen grains). Similarly according to age, ideal lehan is elaborated in Aarogyakalpdrum for example, for 1 month old child Sanskarit ghee (medicated with musta, vidang, hingu, brahmi swaras), etc. similarly it is important to choose appropriate food, fruits during weaning period for complimentary and supplementary food.

Various aahar preparations can be used which are healthy including phal swaras, preenan modak, etc.

Vaccination

Immunization is the most effective way to enhance immunity. Immunization^[13] is the administration of all or part of a pathogen or preformed antibodies to elicit an immunological response that protect from disease. It is the process of inducing acquired immunity. Vaccination is process of administration of vaccine. Vaccine may elicit predominantly humoral immune response, cellular immunity or both. Vaccine could be live attenuated, killed, modified toxins or subunits. All children are advised to get vaccinated according to National immunization program or as recommended by Indian academy of Pediatrics.

Rasayana

Rasayana dravya^[14] are excellent anti oxidant, have immunomodulatory properties, enhances immunity, protects body from diseases, anti stress and medhya (intellect and memory promoter). In ayurveda many useful rasayana dravya are elaborated out of which, Medhya rasayana, Suvarnprashan, chyavanprashavleha, aamalaki rasayana are of great use in children. Similarly use of Panchamrut (mixture of five content in equal amount used for ancient dharmik purpose) is also excellent immunity enhancer. It also works as Pre-biotic and probiotic. Probiotics are defined as live micro-organisms that confer a health benefit to the host, including on the gastrointestinal tract, when administered in adequate amounts. They provide barrier immunity; also stimulate immune response by increasing the antibody production. They fortify the gut's barrier function and modulate the immune system. Probiotics also interact with cells of the immune system, especially dendritic cells, and improve regulatory T cell function.

Aahar and aushadhi dravya

Some of commonly used dravya are pippali (piper longum) acts predominantly on respiratory system, haridra (curcuma longa) which is effective against kaph and pitta dosha and have good immunoprotective mechanism, Ashavagnadha (withania somnifera) effective against kapha and vata dosha, guduchi (tinospora cordifolia) which is tridoshaghna with extraordinary rasayana and immunity enhancing properties, etc.

Aahar- Balanced diet is essential for body to function well and it is important for immunity to work. A well balanced diet should contain all micronutrient, minerals and vitamins. It is well- recognized that nutrition is a crucial factor in modulating immune homeostasis. Protein-energy malnutrition or even subclinical deficiencies of one micronutrient may impair one's immune responses. There are several vitamins and trace elements which are essential for the

normal functioning of the immune system. Supplementation of these has shown positive impact on enhancing immunity in viral infections. Vitamin A, C and E are potent antioxidants and have ability to modulate the host immune functions. As infections increase the demand for several nutrients it is even more important to provide body with healthy and nutritious diet.

In ayurveda diet has great importance for maintaining health and increasing bala. For this, ashta aahar vidhi visheshayatan is elaborated in samhitas. Aahar should be enriched with all its gunas (prakruti), processed properly (karan), when used in combination in moderation only (sanyog), inadequate and recommended quantity (raashi), harvested well and appropriate for body (desha), used for desired duration according to condition of body (kaal) and taken with following basic principles of bhojan (upayogsanstha). Aahar should always be consumed in moderation, with appropriate quantity, with full attention and desire to get all benefits from that aahar. In order to consume diet our body should also be prepared with fully digested previously taken diet, with good appetite and desire towards food with fresh mind (satvik bhava).

Commonly used aahar dravya in day to day life which can be of great use to enhance immunity are Ksheer (milk, golden milk), shunthi, ghrit, etc. Ghrit has important role among all other food items as ghrit has unique property to acquire the guna of dravya which added in it. Ghrit contains short chain and medium chain fatty acids, which are readily absorbable from stomach and enter portal vein and act immediately. Madhu (honey) in small doses in childhood gradually develops resistance to allergance. It is also energy booster, tastes good hence palatable for children and can be used to administer medicines. Maansras is also energy and nutrient rich with easy to digest and can be given to small children also.

Vihar

Being swastha has two aspects, aahar and vihar. Vihar has equal importance to enhance and empower immunity. It can be done in the forms of Yoga (which provide physical and spiritual strength and improves bala), krida (indoor and outdoor sports which help grow child physically and intellectually with mind exercises), morning walk, etc. Vihar also comprises of dincharya^[15] and rutucharya. Dincharya includes daily activities which starts from waking up early, brushing teeth properly (maintains oral hygiene and helps immunity), gargling (prevent oral infection), building healthy habit, toilet training, daily exercise, eating food at regular interval and sound sleep for appropriate time (nidra). Similarly following rutucharya

which includes appropriate food according to season (having seasonal fruits), acting according to season with daily activity, sleep pattern, wearing outfit, etc.

Following dincharya has become special concern since last year due to Covid-19 pandemic lockdown. It has affected children on so many levels physically and mentally, with emerging new problems like constipation, GI disturbances, social awkwardness, depression, etc. It proves the importance of Dincharya in swasthviritta.

Manas bhav

As we have already mentioned the importance of satvik manas bhav in building immunity's various aspects above. Maintaining satvik bhav includes satvik diet, healthy environment and surrounding people. It can reduce stress, anxiety, behavioral disorder, temper tantrum, depression, disturbed sleep, loss of appetite, disturbed digestion and GI disorder and result in healthy life.

CONCLUSION

The concept of *Vyadhikshamatwa* is well documented in modern as well as ayurvedic texts and samhitas. There are several ways of enhancing immunity. The idea of boosting immunity is enticing but can be only done after all the measures done together. The immunity enhancement and empowerment can be done ever before birth, during pregnancy, during birth and afterwards according to age in children. It is requirement of current situation (covid-19 pandemic) and the only weapon to fight against it. For enhancing immunity, not only vaccination but simple day today life changes in aahar and vihar can make lot of difference.

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