

**ROLE OF THE AYURVEDIC IMMUNOMODULATORS IN PEDIATRIC PRACTICE**Madhavi Deodas<sup>1</sup>, Anuja Pradiprao Ghadage<sup>2</sup>

<sup>1</sup>Professor and HOD, <sup>2</sup>PG Scholar, Kaumarbhritya Department,  
College of Ayurveda and Research Centre, Nigadi, Pune-44, Maharashtra, India

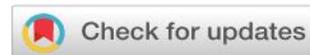
Corresponding Author: [anujghadage1994@gmail.com](mailto:anujghadage1994@gmail.com)<https://doi.org/10.46607/iamj3310032022>

(Published Online: March 2022)

**Open Access**

© International Ayurvedic Medical Journal, India

Article Received: 27/02//2022 - Peer Reviewed: 07/03/2022 - Accepted for Publication: 08/03/2022

**ABSTRACT**

*Balyawastha* is a very crucial period of development as it is a phase of the physical, mental and emotional development of the child. Children being a vulnerable group are easily exposed to various pathogens and affected badly and this early exposure can affect whole life and sometimes results in chronic disorders, so the development of a strong immune system is a need of the hour. Due to the increasing rate of occurrence of infectious diseases like covid- 19 it is necessary to increase resistance towards disease and for that immunomodulators are considered as one of the most potent tools. According to Ayurveda *Vyadhikshamatva* is nothing but the ability for *vyadhibala virodhitvam* (to antagonize the virulence of disease) and *vyadhi pratibandhakatvam* (for prevention of disease). For *vyadhikshamatva* balance between *Tejas* (metabolic activity at the cellular level) *Ojas* (immune form at the cellular level) and *Prana* (flow of communication) is required. In Ayurvedic practice objective of immune enhancement is achieved through the use of *Rasayan* and *Vajikaran* therapy following *achar rasayan* measures and also by *ojovardhaka* remedies. *Rasayan* therapy acts at various levels such as *Jathragni*, *Dhatwagni*, and *Srotas* level so stimulate *Oja* and *bala* thus ultimately enhancing immunity. In Ayurveda, special formulations like *Lehan* and *Swarna prashan* are described which helps in the growth and development of children by increasing absorption of nutrients and protection from various diseases.

**Keywords:** Immunomodulators, *Vyadhikshamatva*, *Rasayan*, *Lehan*, *Swarna prashan*

## INTRODUCTION

Children are the most vulnerable group for illness, as their immune system is not fully developed. Frequent illnesses among children limit their growth and lead to improper development. Despite high advancements in immunization to boost up the defence mechanism, medical science is yet to reach a full proof mechanism against virulent organisms. Therefore, by all means, the children should be supported externally to prevent the infection and at the same time measures should be taken for the proper development of the immune system. Ayurveda compares the concept of a healthy body to a barren land. The infections can develop only when the body immunity is low, the infectious agent is strong and time refers to the depleted *Bala* (immunity). Immunity is the biological term that describes a state having sufficient biological defences to avoid infection, disease, or another unwanted biological invasion. Ayurveda has always emphasized enhancing the body's overall natural resistance to the disease-causing agent rather than directly neutralizing the agent itself. Body immunity (Host factor) is given the utmost importance and the methods to strengthen host immunity like following *Dinacharya* (Daily regimen) and *Rutucharya* (Seasonal regimen) are emphasized in Ayurveda. And some interventions also included therapeutic cleansing procedures (Panchakarma) and certain immunomodulators (Rasayana).

**Vyadhikshamatva in Ayurveda:** - The concept of *Vyadhiksamatva* (immunity) is of tremendous importance in the daily wellness of human beings; for prevention and recovery from diseases. The power of the body, which prevents the development of diseases or resists a developed disease, is called Immunity. *Vyadhikshamatva* in Ayurveda is not merely immunity against a specific infectious agent or disease such as typhoid, measles or rubella for which modern medicine provides "immunizations". Rather, *Vyadhikshamatva* implies resistance against the loss of the integrity, proportion, and interrelationship amongst the individual's *doshas* (bio-energies) and *dhatu*s (tissues).

Resistance to disease or immunity against disease is of two kinds:

(I) **Vyadhi-balavirodhitam:** It is the capacity to restrain or withstand the strength (severity) of the diseases i.e., strength to resist the progress of the disease.

(II) **Vyadhi-utpadakpratibandhakatva:** The resisting power of the body competent enough to prevent the occurrence and re-occurrence of the disease<sup>[1]</sup>

Thus, it is clear that the concept of immunity was familiar at that time and has been analyzed in detail in form of *Vyadhiksamatva* 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.

The equilibrium state of *dhatu*s (bodily tissues) is health and gives rise to *aarogyam* which is a healthy state of the body<sup>[2]</sup> Charaka has also described *Bala* as the factor, that destroys the *Dosas* or disease-causing factors viz., "*Balam hyalam dosaharam Nigrahaya dosanam*"<sup>[3]</sup> The *Bala* is used as a synonym to *Prana* and *Ojas*. They have an underlying meaning of strength and vitality with a natural resistance against ageing and disease. *Ojas* has the property similar to '*Shleshma* but in the Ayurvedic texts, it is stated to stand not only for *Shleshma* (*Tavadeva Shlaishmika syaujasah* – Ch.Sh. 7/15) but also for *Rasa* (*Rasaaujah Samkhyatah*-Ch. Ni.4/7) and *Rakta* (*Jiva shonitam api Ojah*- Dalhana on Su.Su. 15/91).

Three types of *bala* (*Vyadhiksamatva* or immunity) in Ayurveda are<sup>[4]</sup>

**a. Sahaja bala (innate):** - The constitutional strength present since birth<sup>[5]</sup>. It depends on the healthiness of *shukra* (sperms) and *artava* (ovum). According to the 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<sup>[6]</sup>. 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 the evening, summer and old age<sup>[7]</sup>

**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*)<sup>[5]</sup>.

*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 a strong person (means without any family history of immunodeficient disorders), birth at a time when people naturally gain strength (*Visarga kala*), the excellence among qualities of *bija* (sperm and ovum) and *kshetra* (uterus), excellence of diet (*aharasampat*), excellence of physical health (*sharirsampat*), excellence of suitability (*satmayasampat*), all mental faculties are proper (*satvasampat*), the natural mechanism (*savabhavsanssidha*)<sup>[8]</sup>.

Acharya Charaka in the context of functions of *Agni* narrated that, *Dehagni* or *Jatharagni* (digestive power of stomach) is responsible for life, colour (lustre of the skin), strength, health, enthusiasm, plumpness, complexion, *Ojas* (energy), *Tejas* (gleam of the body), other varieties of *Agni* and *Prana* (vitality). Its proper maintenance helps a person to live a long life and its impairment gives rise to diseases. Therefore, *Jatharagni* is considered to be the root or the most important sustaining factor of living beings.<sup>[9]</sup> In this way, immunity is influenced by the power of *Agni*, digestive fire and our ability to digest, assimilate and absorb nutrients in human bodies. In a healthy, strong and immune body, invaders get neutralized or destroyed and expelled out of the body. If *Agni* is impaired by an imbalance within, the *Tridosha* then the metabolism will get affected, immune response and natural resistance will also be lowered.

According to Acharya Charaka, *Oja* appeared foremost in the human body during embryogenesis<sup>[10]</sup>. The essence of *Saptadhatus* (seven bodily tissues as from *Rasa* to *Shukra Dhatu*), is called *Oja* and it is the seat for strength, hence called *Bala*<sup>[11]</sup>. Though located in the heart, it pervades all over the body and controls the working of the body. Reference has been made to the two kinds of *Ojas* viz., *Ardhanjali* or *Shlaishmik Ojas* and *Para* or *Ashta Bindu Ojas*. They are significant in the context of *Vyadhiksamatwa*. The two kinds of *Ojas* have a direct influence on the body's defence against decay, degeneration and infections. The *Ojas* prevents, resists and overcomes such factors which are produced in the course of the vital activities of the organism and may lead to decay and degeneration of the tissues (*Dhatus*) of the body

**Immunomodulation:** - The concept of immunomodulation has been gaining much significance worldwide as people started realizing the indispensable role of the immune system in maintaining a disease-free state. In the last two decades, to further complicate matters, there has been an upsurge in the number of strains of infectious agents that no longer succumb to antibiotics has been observed. Antibiotics have lost their magic touch after decades of incautious prescription, improper use and inevitable spread of bacterial genes that confer drug resistance. The control of disease by immunologic means has two objectives: The development of immunity and prevention of undesired immune reactions. From clinical perspective immunomodulators can be classified into three categories:

**A. Immunoadjuvants:** An adjuvant is an agent that stimulates the immune system increasing the response to a vaccine while not having any specific antigen.

**B. Immunostimulants:** These agents are envisaged to enhance the body's resistance against infections, can act through both the innate and adaptive arms of the immune response.

**C. Immunosuppressants:** These agents could be used for control of pathological immune response in autoimmune disease, graft rejection, graft versus host dis-

ease, hypersensitivity and immune pathology associated with infection.

**Ayurvedic concept of immunomodulators in children:** Immunomodulators are considered now one of the most potent tools in the management of health and disease by modern medicine. The basic concept of immunomodulation not only existed in Ayurveda but is being practised by the Ayurvedists for centuries. In Ayurvedic practice, the objective of immune enhancement is achieved through the use of the *Rasayana*, *Lehan* and *Ojovardhaka* remedies.

**Rasayana:** - Rasayana means an improved state of nourishment, which in turn upholds increased immunity and youthfulness. *Rasayana* can be a drug, diet or even a lifestyle that may help achieve the above goal. The Rasayanas are supposed to strengthen *Oja* and *Bala* i.e., vitality and strength with a natural resistance against ageing and disease. It is stated to contribute to the integrity of body tissues and thus increases longevity. The other benefits of this therapy are the promotion of memory and intelligence, the preservation of youth, lustre, complexion and voice. *Rasayana* measures act in one of the following three ways –:

**(1) Acting at the level of Rasa:** Thus, directly improving the quality of nutrition.

**(2) Acting at the level of Agni:** By improving the digestion and metabolism of the body and thereby affording better nutrition.

**(3) Acting at the level of srotas:** By improving the micro-circulation, it ensures proper perfusion and nourishment of the tissues. The integrity of channels is equally important for the distribution of Ojas to the Dhatus, as discussed earlier, which provides body immunity against degeneration and diseases.

**Lehan:** -Ayurvedic texts, various acharays described countless useful *dravya*, formulations (yogas), modes of conduct for adults to enhance immunity (*bala* or *vyadhikshmatva*). Acharya Sushruta, Vagbhata, Kasyapa describe a special formulation by the name of "*Lehana*",

Lehana karma's purposes:

1. To enhance growth & development by providing sufficient nutrition.

2. Promote health, complexion and strength (immunity).

3. Protect from various infections along with improving intellect and speech (delayed milestone).

**Swarna prashana:** *Swarna Prashana* is a cultural practice in India and has been included in Jatakarma Samskara which is one of the 16 essential *Samskars* described in Indian tradition<sup>[12]</sup>. Raw gold is rubbed on a stone with water while facing towards east chanting holy Mantras and is administered with honey and ghrita to a newborn just after birth (*Jaatmatra*)<sup>[13]</sup>.

With time, raw gold has been replaced by *Swarna Bhasma* while some drugs like *Vacha Churna* (*Acorus calamus*) and *Brahmi* (*Bacopa monnieri*) are now added as an ingredient of *Swarna Prashana*. Oral administration by *Lehana* is considered to be the convenient and safe way in pediatric age group. It enhances *Medha* (Intelligence), *Agni* (digestive power), *Bala* (strength), and *Ayu* (age). It is *Varnya* (complexion), *Pavitra* (pious), and *Mangalkaraka* (goodwill). Therapeutically used in *Grhabadha* and is *Vrishya*. If it is administered daily for a month, the child will become *Medhavi* (intelligent). If its administration continued for 6 months, the child will become *Smritivan* (increase memory), and *Shrutadhara* (remember everything which is heard)<sup>[14]</sup>. *Swarna Bhasma* has immunomodulatory<sup>[15,16]</sup>, free radical scavenging, analgesic, and anti-stress effect<sup>[17]</sup>. In vitro, in vivo and Clinical Studies were done on *Swarna Prashan/Swarna Bindu Prashan* have suggested that it has good immunomodulation, growth promoter, antitussive and may support quality of life in cancer patients during anti-cancer treatment.

**Prakara yoga:** A unique concept from *Arogyarakshakalpadruma* *Prakara* yogas are formulations mentioned in *Arogyakalpadruma* for preventing childhood illness They are useful for establishing and promoting digestion, health, longevity and immunity. It is explained that a wall that protects the house from various odds, *Prakara* yogas keep the child away from various ailments. Hence the name *prakara* means wall. These formulations provide generalized immunity to the child similar to modern immuniza-

tion. They should be given a schedule in different age groups periodically from birth up to 12 years of age. Most of the combinations are in the form of a medicated powder/Ghrita. Constituents of each formulation vary with corresponding age & must be used along with the appropriate adjuvant. The prescribed use of Prakara yogas correct *Agni* and alleviate *Dosha* as they are collectively having pharmacological actions such as *Deepana* and *Pachana*.

## CONCLUSION

From the above discussion we can conclude that the immunity of a child can be developed from conception till birth and after birth also with various Rasyan, Lehan, Swarna *prashan* and by following some principles of Ayurveda like *Dincharya*, *Ritucharya*, and *Sanskaras*.

## REFERENCES

1. Charaka. Charaka Samhita (Vaidya manorama Hindi commentary). Shukla V, Tripathi R, editors. 1st ed. New Delhi: Choukhambha Sanskrit Publication; 2010. (Charaka Samhita Sutrasthana 28/7, Cakrapanicommentary).
2. Charaka. Charaka Samhita (Vaidya manorama Hindi commentary). Shukla V, Tripathi R, editors. 1st ed. New Delhi: Choukhambha Sanskrit Publication; 2010. Charaka Samhita Sutrasthana 9/4).
3. Charaka. Charaka Samhita (Vaidya manorama Hindi commentary). Shukla V, Tripathi R, editors. 1st ed. New Delhi: Choukhambha Sanskrit Publication; 2010. Chikitsasthana, 15/3-4. p.358.
4. Sushruta. Sushruta Samhita (Ayurveda tatwasandipika Hindi Commentary). Shastri A, editor. 1st ed. Varanasi: Choukhambha Sanskrit Publication; 2011. Sutrasthana, 15/24. p.79
5. Kashinatha Shastri, Gorakha Natha Chaturvedi. Charaka Samhita (Vidyotini Hindi commentary), Varanasi) Sutrasthana 11/36. Chaukhambha Bharati Academy, Part-I (Reprint year: 2005) and Part-II (Reprint year: 2006).
6. Kashinatha Shastri, Gorakha Natha Chaturvedi. Charaka Samhita (Vidyotini Hindi commentary), Varanasi: Chaukhambha Bharati Academy, Part-I (Reprint year: 2005) and Part-II (Reprint year: 2006). Sharirsthana 3/17, p.865)
7. Kashinatha Shastri, Gorakha Natha Chaturvedi. Charaka Samhita (Vidyotini Hindi commentary), Varanasi: Chaukhambha Bharati Academy, Part-I (Reprint year: 2005) and Part-II (Reprint year: 2006). Sutrasthana 6/8
8. Kashinatha Shastri, Gorakha Natha Chaturvedi. Charaka Samhita (Vidyotini Hindi commentary), Varanasi: Chaukhambha Bharati Academy, Part-I (Reprint year: 2005) and Part-II (Reprint year: 2006). Sharirsthana 6/13
9. Bajaj S, Vohora SB. Analgesic activity of gold preparations used in Ayurveda & Unani -Tibb. Indian J Med Res 1998; 108:104-11.
10. Shah ZA, Gilani RA, Sharma P, Vohora SB. Attenuation of stress-elicited brain catecholamines, serotonin and plasma corticosterone levels by calcined gold preparations used in the Indian system of medicine. Basic Clin Pharmacol Toxicol 2005; 96:469-74
11. Charaka. Charaka Samhita (Vaidya manorama Hindi commentary). Shukla V, Tripathi R, editors. 1st ed. New Delhi: Choukhambha Sanskrit publication; 2010. Sutrasthana, 17/75. p.267.
12. Arun Raj GR, U. Shailaja, Kannan Sagar, Deepthi Viswaroopan, S. Nayan Kumar. Swarna prashana to Swarnamritaprashana: Experience inspired modification through ages. Int J Pharm Sci Res. 2017; 8:4546-50.
13. Bhisagacharya S, editor. Kashyap, Kashyap Samhita, Kashyap Sutra Sthana Lehandhaya. Varanasi: Chaukhambha Sanskrit Sansthan; 2010. 4.
14. Bhisagacharya S, editor. Kashyap, Kashyap Samhita, Kashyap Sutra Sthana Lehadhaya. Varanasi: Chaukhambha Sanskrit Sansthan; 2010. 4.
15. Gaikwad A S, Patel KS, Rajgopala S, A Comparative Pharmaco-Clinical Study of the Effect of Madhu-Ghrita and Swarna-Vacha-Madhu-Ghrita on Neonates. Jamnagar: I.P.G.T. & R.A; 2011. PG Thesis work.
16. Patil A, Dindore P, Arbar A, Kadam A. Saroch V. Clinical effect of Suvarna Bindu Prashana. Journal of Ayurveda and Integrated Medical Sciences 2017; 2:11-8.
17. Mitra A, Chakraborty S, Auddy B, Tripathi P, Sen S, Saha AV, et al. Evaluation of chemical constituents and free-radical scavenging activity of Swarna bhasma (gold ash), an ayurvedic drug. J Ethnopharmacol 2002; 80:147-53.

Source of Support: Nil

Conflict of Interest: None Declared

How to cite this URL: Madhavi Deodas & Anuja Pradiprao Ghadage: Role Of The Ayurvedic Immunomodulators In Pediatric Practice. International Ayurvedic Medical Journal {online} 2022 {cited March 2022} Available from: [http://www.iamj.in/posts/images/upload/771\\_775.pdf](http://www.iamj.in/posts/images/upload/771_775.pdf)