

A CRITICAL APPRAISAL OF BALA RASAYANA IN CHILDREN – AN OVERVIEW

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ABSTRACT

Ayurveda is an ancient science of healing system with special focus on *Swastasya swastya rakshana* (Preserving the health of a healthy person) and *Aturasya roga prashamanam* (Curing the diseases of diseased person). Rasayana is one among the 8 branch of Ayurveda, which is basically aimed at enhancement of optimum quality of *Rasadi Saptadhatu*'s. In children, it plays a vital role in preventing various infections as well as it could be a solution in addressing various nutritional disorders too. Various Rasayana yoga's are mentioned in Balyavastha, among them *Swarna prashana* and the concept of Medhya rasayana are highly needed in this present scenario. The concept of Suvarna prashana is an unique contribution in the field of Ayurveda pediatrics, which is aimed at improving the innate immunity of the child as well as enhancement of intellectual skills in children. Apart from Suvarna prashana, various other disease specific Rasayana yoga's are specified in various contexts of Childhood disorders such as *Vardhamana pippali rasayana*, *Ajamamsa rasayana* etc under the context of *Rajyakshma*; which could act as supportive medicaments in the management of various diseases. Hence, the role of Rasayanas in childhood is unquestionable and its multifold efficacy could be a solution in prevention of various infections in children in this modern era.

KEYWORDS: Balarasayana, Swarnaprashana, Medhya Rasayana.

INTRODUCTION

Ayurveda is an ancient holistic science of life, aims at maintaining the health of a healthy individual and to alleviate disorders of the diseased person. To attain *Chaturvidha Purushartha*'s [*Dharma, Artha, Kama & Moksha*]-Health is considered as a prime tool.^[1]

Rasayana is an unique contribution of Ayurveda to the mankind, through which one can lead a prolonged, happy and healthy life. It is one among the eight branches of Ayurveda, which focuses on both preventive and curative aspects of the diseases well as enhancing the longevity of life.

'**Rasayana**'- is an umbrella term which indicates various regimens or the substance with the help of which one can attain, metabolize and channelize the better quality of *Rasa Dhatu* and thereby maintain other Dhatu's (body tissues) in an equilibrium state for a longer period.^[2] Here, the word *Rasa* denotes the vital fluids, responsible for nourishment of entire body and mind, while the word *Ayana* indicates passage of these life sustaining fluids. Thus, Rasayana specially replenishes the vital fluids of the body from macro to micro-cellular level; boost the

Ojas (vital force of life) and helps in maintaining the optimum status of both Physical as well as Mental health.

RELEVANCE OF RASAYANA IN CHILDREN

Balyavastha is period, characterized by *Asampoornabala* (relatively incomplete strength in terms of physical ability and also immunity) and *Aparipakvadhātu* (Immature tissue elements) - which makes the children victims of various kind of infections. At the same time, *Soukumaryata* (the delicate or tender nature of children), *Akleshasahatwa* (difficulty in tolerating) and *Shleshmadhatupraya* (due to the predominance of Kapha Dosha)^[3]- children are more vulnerable to develop variety of diseases both at Physical and Mental level.

Though, Balyavastha is not considered as an ideal age for Rasayana karma [*Purve Vayasi Madhye va*]^[4] but the present scenario such as-altered food habits, varied agricultural practices, increased educational stress on children, unethical usage of various Antibiotics etc., leading to an increasing incidence of mortality and morbidity rate in children,^[5] which is not only affecting their nutritional status, but even the Psychological Health is also affected.

In such a scenario, the judicious usage of Rasayana yoga's in children could be the solution which not only enhances the *Vyadhikshmatva* (resistance capacity)

towards various infections but also boost up the Intellectual skills to higher level.^[6]

CLASSIFICATION OF RASAYANA

1. Prayoga Bhedena Rasayana^[7]



a. Kuti praveshika

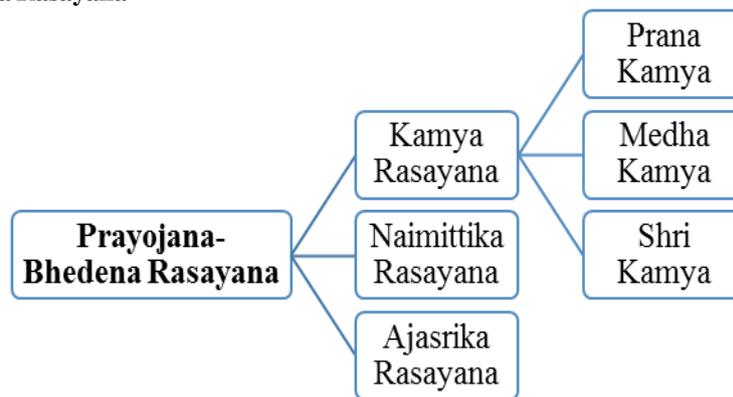
In this method, the rejuvenation therapy is conducted in an isolated place, inside a special chamber called "*Kuti*", constructed with the purpose of providing rejuvenation.

the place of the person who is to be rejuvenated without any specific restrictions. Vata-tapika is a combination of *Vata & Atapa*- means wind and heat of sun. Here the person can get the benefits of Rasayana, while living or getting exposed to the *Vata and Atapa*.

b. Vata-tapika

In this method, the rejuvenation therapy is conducted in

II. Prayojana-Bhedena Rasayana^[8]



A. Kamyas Rasayana

Kamyas means desire. The Rasayana used for achieving a specific desire is called *Kamyas Rasayana*. It is further divided into *Prana Kamyas*, *Medha Kamyas* and *Shri Kamyas*; used in the healthy persons for promotion of *Prana, Medha and Shri*.

capacity), *Smarana* (Recalling capacity) & *Grahana* (Grasping capacity), it is specially aimed at Improving the cognitive abilities, which is highly intended in children.

Ex: Shankhapushpi, Yashtimadhu, Guduchi, Mandukaparni, Vacha, Jyotishmati etc.

• Prana Kamyas

Aims at enhancing the life span or improving the quality of life. These type of Rasayana Yoga's are helpful in *Roga-apaharana* (relieving the disease), *Bala vardhana* (Improving the Bala) and *Grahaapaha*(Antimicrobial qualities).

Ex: Chyavana-prasha, Amalaka Rasayana.

• Shri Kamyas

Shri indicates wealth or complexion. It aims at improving the complexion and luster of a person Ex: Amalaki Rasayana.

• Medha Kamyas

The word *Medha* is associated with – *Dharana* (retention

B. Naimittika Rasayana

The Rasayana yoga's which are specifically indicated in treating certain diseased condition. *Nimitta*– stands for '*specific condition*'.

Ex: Nethra Roga's	:	Triphala, Jyotishmati, Yashtimadhu,
Twak Roga	:	Tuvaraka, Bhallataka
Rajyakshma	:	Vardamana Pippali Rasayana, Nagabala Rasayana
Medhoroga	:	Guggulu, Hareetaki
Madhumeha	:	Shilajatu, Amalaki

C. Ajasrika Rasayana^[8]

The word '*Ajasrika*' refers to perpetual/occurring every day. *Ajasrika rasayana*'s are advised totake regularly just like food. *Ghrita* and *Ksheera* have been mentioned as

Ajasrika Rasayana by Acharya Sushruta.

It refers to the continuous consumption of a nutritious diet in order to maintain optimum nutrition. When

nutritious food items are taken regularly as food, it is considered Ajasrika Rasayana. Its daily usage will bring the overall benefits rasayana like Bala, Buddhi, Medha etc. and equilibrium state of body and mind.

MEDHYA RASAYANA^[9]

Medhya is mentioned in Ayurveda in a wide sense, the word Medha is derived from the root “*Medh sangame*” which means to collect, meet, or come together.^[10] Medha can also be understood as *Grahana Shakti* (ability for grasping) and *Dharana Shakti* (ability for retention)^[11] and Rasayana means therapeutic procedure or preparation that on regular practice will boost nourishment, health, memory, intellect, immunity and

hence longevity.

According to Acharya P.V Sharma, Medhya drugs acting accordance with Prabhava^[12] and Medha will benefit from drugs that mostly contain *Tikta Rasa*, *Laghu Snigdha Guna*, *Sheeta Virya*, and *Madhura Vipaka*. Rasa, Srotas and Agni will all be affected by the effects of these Prabhava and Rasadi guna's.^[13]

Acharya Charaka explains *Medhya Rasayana* is a group of four medicinal plants that can be used singly or in combinations.

Medhya Rasayana ^[9]	Botanical name	Rasa	Guna	Virya	Vipaka	PrayogaVidhi
1.Mandukaparni	Centella asiatica	Tikta, Kashaya, Madhura	LaghuSara	Sheeta	Madhura	Swarasa
2.Yashtimadhu	Glycyrrhiza glabra Linn.	Madhura	Guru Snigdha	Sheeta	Madhura	Ksherapaka
3.Guduchi	Tinospora cordifolia	KatuTikta	Guru Snigdha	Ushna	Madhura	Swarasa
4.Shankhapusphi	Convolvulus plauriculus	Tikta Kashaya	Snigdha, Pichila	Sheeta	Madhura	Kalka (Panchanga)

A. Mandukaparni: (*Centella asiatica* Linn.)

Mandukaparni (*Centella asiatica* Linn.) is a prostrate, stoloniferous perennial herb rooting at nodes.^[14] Swarasa (Fresh whole plant juice) is used for therapeutic purposes as Medhya (cognitive enhancer).^[15]

Mandukaparni is basically Tikta Rasa, Sheeta Virya, Madhura Vipaka, and Kapha-Pitta hara in nature. Tikta Rasa enhances the Medhya quality due to its Akasha and Vayu Mahabhuta, as well as it is *Laghu*, *Deepana*, *Pachana*, and *Sroto Vishodhana Karma*.^[16] And being a Tikta rasa pradhana dravya, Mandukaparni shows its special ability on Majja-dhara kala also-which will helps in improving the *Dhee*, *Dhriti*, and *Smriti*, henceforth increasing the *Dharana Shakti*.^[17]

Major constituents are saponin (medacoside, asiaticoside, medacassoside, asiatic acid, a new triterpenic acid).^[18] They act on behavior besides being neuroprotectives^[19] brain growth promoter.^[20]

B. Yashtimadhu (*Glycyrrhiza glabra* Linn.)

Yashtimadhu (*Glycyrrhiza glabra* Linn.) is a hardy herb or under shrub belonging to Fabaceae family.^[21] Fine powder of dried roots used internally with milk for therapeutic purpose as Medhya.

Yashtimadhu is Madhura rasa pradhana dravya and Madhura Vipaka in nature.^[22] It is considered as medhya owing its prabhavi karma. Being a madhura dravya it acts as a mana and Buddhi prasadaniya by regulating the *Chala-Guna* (moveable property) of Vata. It may regulate Buddhi-vaisheshika pitta and helps in analyzing or decision taking skills guarded by buddhi.^[23]

Active ingredients are glycyrrhizin, flavonones,^[24] isoflavones, glycyrrhetic acid, six phenolic compounds.^[25] Multidimensional activities of *Yashtimadhu* may be attributed to glycyrrhizine and flavonones.

Glycyrrhizin is responsible for its 50-fold sweetness.^[26] Increasing glucose bioavailability at the brain level and improving brain activity.^[27] The roots and rhizomes of *Glycyrrhiza glabra* is an efficient brain tonic; It increases the circulation into the CNS system and balance the sugar levels in the blood.^[28] Licorice has significant action on memory enhancing activity in dementia.^[29] It significantly improved learning and memory on scopolamine induced dementia.

C. Guduchi (*Tinospora cordifolia* (Wild)Miers)

It is a large glabrous, deciduous, climbing shrub of Menispermaceae family found throughout tropical India.^[30] Swarasa (Juice of whole plant) is used therapeutically as *Medhya*.^[31] It is also used in the form of decoction, powder and Satwa (starch extract of stem).

Ushna Virya nature of Guduchi^[32] helps in removal of *Tamoguna* and vitiated Kapha from *Manovahasrotas*. Its Tikta pradhana rasa also helps in governing the functions of *Alochaka* and *Sadhaka Pitta*, enhancing *Buddhi* (intellect) and *Medha* (Grasping power). Due to its rasayana properties Guduchi could be an ideal in managing the Neurodegenerative conditions.

Chemical constituents are alkaloids, diterpenoid lactones, glycosides, steroids, sesquiterpenoid, phenolics, aliphatic compounds and polysaccharides.^[33] The aqueous root

extract of this drug may stimulate the release of neuromodulators or neuronal dendritic growth stimulating factors that alter the activity of neurotransmitters that are involved in learning and memory, which there by contributes to enhanced learning and memory.^[34] Guduchi (T. cordifolia) protects normal learning processes by maintaining hippocampal neurons, according to research. Because the hippocampus is the key center for learning and memory, protecting it from harm helps to preserve the cognitive process.^[35]

D. Shankhapushpi (*Convolvulus pleuricaulis* Chois)
Shankhapushpi (*Convolvulus pleuricaulis* Chois) is a perennial, prostrate or sub erect spreading hairy herb,^[36] found throughout India. Recommended therapeutic form is fine paste of whole plant. Highly regarded as *Medhya* (intellect promoter).^[37] Important chemical principles are microphyllic acid, shankhapushpin, kaempferol-kaempferol-3-glucoside, 3, 4 di-hydroxyl cinnamic acid, sitosterols.^[38]

It is Katu and Kashaya rasa in nature, but being Madhura Vipaka it acts as *Mana Buddhi and Indriya prasada*. Being guru Snigdha and Pichhila, it controls the Chala-Guna of Vayu and also normalizes the functioning abilities of Pranavayu.^[39]

Most of the research studies on Shankhapushpi explores its Nootropic, Antidepressive and sleep inducing qualities. Few studies suggest that, Shankhapushpi relax nerves by controlling the body's production of the stress chemicals adrenaline and cortisol, according to herbalist's.^[40]

In general, most of the drugs mentioned under the context of *Medhya rasayana* are Tikta- Kashaya Rasa Pradhana and Pittashamaka in nature. *Medhya* (cognitive skills) attributed as its *Prabhavi karma*. However, this can be interpreted in terms of Kala and its Dosha Shamaka nature. According to Ayurveda literature, *Majjadhara Kala* (Faculty of Mastishka) follows similar treatment modality as of *Pittadhara kala* (*pittadhara sa eva Majja-dhara kalaha*).^[41]

Due to its Tikta and Kashaya Rasa most of drugs shows its effect on *Majjadhara kala* and their by it may enhance the functional abilities of *Buddhi* i.e., *Dharana* (Retaining capacity), *Grahana* (Grasping capacity) & *Smarana* (Recalling capacity) and thus it could act as *Medhya rasayana*.

BENEFITS OF RASAYANA IN CHILDREN^[42]

- Promotes Longevity of life
- Improves mental and intellectual competence.
- Enhances immunity against diseases
- Delays ageing process by preserving Youthfulness
- Improvement in the complexion and luster of the skin (Prabha and Kanti)

- Optimization of strength of body and Indriya (motor and sense organs)
- Physical and mental strength improvement
- Command over speech/in fallibility of speech (*Vak-siddhi*)
- Proper, accurate balanced and premium production of all the Sharira Dhatus (Right from Rasa Dhatu to the Shukra Dhatu).

SWARNAPRASHANA IN CHILDREN

Swarnaprashana^[43] is an unique contribution of Ayurveda in the field of pediatrics which aims at enhancing the Vyadhikshmatva, Bala-Medhavardhana.^[38] The concept of Swarnaprashana is mentioned in various context of Ayurveda literature which emphasis its administration at different stages of our life starting from birth. Swarna prasha is considered as Samskara [Jatasamskara], immediately after the birth, where baby is made to lick *Ananta* (*Swarnabhasma*) along with Madhu and Sarpi^[44,45] which is intended to enhance the *Sahaja Bala* (innate immunity) as well as *Medha Shakti* (cognitive skills). Swarna Bhasma (incinerated form of gold) by nature itself is a very good *Medhya Rasayana*.^[46] It rejuvenates the mind and body at micro and macro cellular level.

In *Kashyapa Samhita Lehanaadhyaya*⁴² detailed description of Swarnaprashana is explained, where swarna triturated with *Madhu* and *Ghrita* and administered orally.

The specific benefits described to Swarnaprashana are as follows.^[43]

1. *Medha Agni Bala Vardhana* (Improvement of intellect, digestion, metabolism, immunity and physical strength)
2. *Ayushyam* (enhancing the quality of lifespan)
3. *Mangalam* (auspicious) & *Punyam* (attains purity)
4. *Vrushyam* (aphrodisiac), *Varnyam* (enhancement of color and complexion)
5. *Grahaapaha* (protection from all evil spirits including microorganisms)
6. '*Masat param Medhavi*' (continuous intake of Swarnaprashana by 1 month can make the child highly intellect)
7. *Vyadhibhir na drushyate* (doesn't suffer from diseases)
8. *Shadbhihi masaih Shrutadharh* (if given six months child learns quickly and remembers what he hears).

SWARNAPRASHANA YOGA'S IN VARIOUS CLASSICS.

Sl.no	Samhita	Yoga's
1.	Kashyapa Samhita ^[43]	Swarnabhasma+Madhu+Ghrita
2.	Sushruta Samhita ^[47]	1. Suvarna, Kushta, Madhu, Ghrita, Vacha 2. Matysashataka, Shankhapushpi, Madhu, ghrita, Suvarna 3. Arkapushpi, Madhu, Ghrita, Suvarna, Vacha 4. Suvarna choorna, kaidarya, Shweta doorva, Ghrita
3.	Ashtanga Hrdaya ^[48]	1. Swarna, Shweta vacha, Musta 2. Swarna and Arkapushpi 3. Swarna and Masthyakshaka, Shankhapushpi 4. Swarna, Kaidarya and Vacha

PRAKARA YOGA^[49]

Prakara yoga are the specialized home remedies explained in Arogya Raksha Kalpadruma,⁴⁶ which are supposed to be given at regular interval in children in order to enhance immunity and to prevent various kinds of infection.⁴⁶ Literally, the word *prakara* signifies the protective boundary around the child to prevent the entry of pathogens, which includes various drug combinations indicated at specific age period starting from birth up to 12 years of age.

ex

1. Newborn (1-7 days) –Vacha grinded in Tripadika juice and three drops of the same is advised to instill over the center of head is beneficial to maintain

Dosha samyata & Agni vardhana and prevents from Graha Rog.

2. For 1 Month old child-Hingu, Musta, Vidanga are powered well and added with Medicated Ghrita and mixed with juice of Trayanti and it is given internally in the morning for 7 days is beneficial.

RASAYANA DRUGS ACCORDING TO THE AGE GROUP^[50]

According to Sharangadhara Samhita,⁴⁹ In human life cycle, during infancy may have immaturity in the Dhatu Avastha of the child and few characters and qualities tend to change in every stage of life and hence during every stage of life all persons must take Rasayana to protect these qualities.

Age Group	Attributes	Suitable Rasayana
1–10	Balya–Childhood	Vacha, Swarna
11–20	Vridhhi – Growth	Ashwangadha, Bala
21–30	Chhavi–Complexion	Lauha, Amalaki
31–40	Medha–Intelligence	Jyotishmati, Shankhpuspi
41–50	Twaka–Skin	Bhringaraja, Priyala
51–60	Drishti–Eyesight	Triphala, Lauha
61–70	Shukra–Sexual capacity	Atmagupta.Vajikaranadrugs
71–80	Vikrama–Courage	Kushmanda Rasayana
81–90	Buddhi–Intelligence	Swarnabhasma
91– above	Karmendriya–Motor organs	Ajamamsa Rasayana

DOSE OF RASAYANA

Generally, dose is not specified for Rasayana. Though it depends upon Kala, Agni and Dehabala, but in general the Rasayana should be given in dosage, that it does not hamper the food consumption of the person.^[52] considering the yukti of Physician.

However, Kashyapa in lehanaadhyaya^[51] Vidangaphala Matra is said to be an ideal dosage at the time of Birth (Jatamatra) which should be increased in every month considering the Agni Bala and Dehabala till it reaches Amalaka matra, as Maximum dosage.

DISCUSSION

The concept of Rasayana is very much unique which enhances the quality of all *Saptha dhatus* both at micro and macro level. Basically Rasayana's are essential molecular nutrients and nutrition enhancing agents, which acts by improving both *Jataragni* and *Dhatwagni*

[promoters of digestion and metabolism] leading to the formation of optimum *Poshaka rasa*.^[53]

On the other hand, Most of the Rasayana's does Sroto-shodhana [Promotes microcirculation and tissue perfusion] too. In this way Rasayana's are aimed at obtaining the Excellency of Rasadi Dhatus, ie Prashasta Dhatu as well as Ojas by enhancing the Agni and by removing Sroto avarodha.

Commenting on this, Chakrapani quotes that apart from Prashasta Dhatu utpatti it is also responsible for Smriti^[54] – which is explained in detail under the concept of Medhya Rasayana.

Medha is a faculty of Buddhi, which means unobstructed, uninterrupted perception, retention and very deep knowledge gained by all the senses and Medhya Rasayanas are group of medicinal plants

described in Ayurveda, specific to brain tissues and are claimed to promote cognitive functions of the brain and helps in regeneration of neural tissues besides producing anti-stress and memory enhancing effect and retard brain ageing.

Medhya Karma is considered predominantly as Prabhava janya because some medhya dravya are shita Virya Madhura Rasa and Madhura Vipaka e.g. Yashtimadhu but some are Tikta rasa and Ushna Virya e.g. Guduchi.

Thus we can conclude that, Medhya rasayana's shows its effectiveness due to its Prabhava (Specific function) by enhancing the cognitive skills like – *Grahana Shakti* (Power of Acquisition) *Dharana Shakti* (Power of retention) and *Smarana Shakti* (Power of re-collection).

Childhood is the period in which all body tissue or "Dhatu" are immature and are in the process of maturation i.e. growth & development, so by proper usage of Rasayana's in this age is very effective in preventing various Nutritional disorders as well it could be an ideal remedy to enhance intellectual and cognitive skills in this competitive era.

CONCLUSION

Rasayana is a regimen or the substance with the help of which one can attain, metabolize and channelize the better quality of Rasa Dhatu and other Dhatus up to the smallest unit of the body. It provides nourishment to all the seven Dhatus. Detailed description of various rasayana are available in all the Brhatrayis. In Kashyapa Samhita, special chapter like Lehana Adhyaya, Shatapuspha Shatavari Kalpa Adhyaya etc. are dedicated to various Rasayana Kalpa's which are Naimittika (ex. Ajamamsa Rasayana in Rajayakshma) as well as Kamyas Rasayana (Shatapuspha Rasayana Swarnaprashana as medhya Kalpa's) in nature.

Though the childhood period is characterized by & 'Aparipakva Dhatus' [Immaturity of Bodily tissue]; Aklesha Sahatwam [reduced physical strength] etc, Proper nourishment can enhance the Optimum growth and development. At the same time, Rasayana's are basically Oorjaskara [enhance the resistance capacity], which are highly need in this present era to prevent various kind of diseases specially among children. Hence, Judicial usage of Rasayana's in this age is very much essential in preventing various Nutritional Disorders, various infectious conditions as well it could be an ideal remedy to enhance intellectual and cognitive skills in this competitive era.

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