

ROLE OF AYURVEDA IN PAEDIATRIC CARE: A REVIEW

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ABSTRACT

Childhood is the very important phase of life therefore Ayurveda has placed *Kaumarbhritya* under the *Ashtang Ayurveda*. The purpose of *Ayurveda* has dealt in such great detail on Paediatrics is to ensure better and healthier progeny. Many diseases in childhood, can be treated properly through Ayurvedic medicines. *Vedana Adhyaya* in *Kashyapa Samhita*, provide an information to the physician, to help in early and accurate diagnosis even in modern era. *Dhoopana vidhi* prevent growth of disease causing micro-organism and also enhance health and vitality of the children. If *Kridabhoomi* of child sprayed with water medicated with *vidanga*, *maricha*, then the *Kridabhoomi* becomes free from insects, protozoa and helminths. *Suvarna prashana*

increases intellect, strength, digestive power and acts as immunity booster in children. In paediatric patients, *Panchakarma* procedures are equally effective as they are in adult, but in present situation, there is difficulty in administering *Panchakarma* in children because of lack of knowledge of the doses, methodology and complications, by taking references from Ayurvedic texts and other study material we can use *Panchakarma* procedure and other concepts of Ayurveda to prevent and to treat many diseases in children without any adverse effect. **Methods:** References regarding *Vedana Adhyaya*, *Dhoopana vidhi*, *Suvarna prashana* and *Panchakarma* in Children collected from various classical Ayurveda texts, published research papers from Internet sources, previous work done are reviewed and analysed. **Result and Conclusion:** On the basis of review from different Ayurvedic text, we can prevent and treat many diseases of children in modern era by using *Rasayana Chikitsa*, *Vedana Adhyaya*, *Dhoopana vidhi*, *Suvarna prashana* as well as the applied *Panchakarma* procedure.

Considering significance of Ayurveda in Paediatric care present study summarizes that if one follows the *Ayurvedic* guidelines described in the various *Samhitas* the child will definitely enjoy a longer, happier and healthier life.

KEYWORDS: *Rasayana, Vedana Adhyaya, Dhoopana vidhi, Suvarna prashana, Panchakarma.*

INTRODUCTION

“*Kaumarabhrthy*” the branch which deals with Pediatric health care, has been given the foremost position among *Ashtangas* of Ayurveda by Acharya Kashyapa.^[1] *Kaumarabhrthy* deals with healthy upbringing of infants, purification of mother's milk and also cure for diseases of infants caused by intake of vitiated breast milk or *Balagraha* (evil demons).^[2] Acharya Hareeta included antenatal care and post natal care in this field.^[3] Early childhood is a critical period in development, as rapid gain in physical, cognitive, and socio-emotional domains constitutes the “building blocks” of children's later growth. Many a disease, especially in childhood, can be treated properly through Ayurvedic medicines in modern era. In children nutrition, growth and development are intricately interlinked. Aberration in one aspect of nutrition tends to influence the mental and physical development of the child significantly and even adversely. Breast feeding for appropriate duration and weaning by the introduction of other healthy diets at the appropriate time are two practices that can prevent morbidity and mortality in children which is also explained by Acharya Kashyapa as *Phalprashana* and *Annaprashana Samskar*.

Acharya Kashyapa has very deep knowledge to understand the disorders occur in children. All features were collected by Acharya Kashyapa and enumerate them in a chapter as *Vednaadhyaya*. By correlating them in today's perspective which will be helpful to understand the disease of children in initial stage as well as their treatment accordingly without any complications.

Panchakarma can be beneficial in *Kaumarbhritya* as a comprehensive cure for many child disorders. Kashyapa Samhita explains the Panchakarma in a child with detail explanation of *Snehana*, *Swedana*, *Vamana* and *Virechana*, *Basti* and *Nasya*.

In ocular inflammations, certain drugs are mentioned to apply over forehead instead of topical application over affected area. This may reduce the risk of ocular irritation, as children

are less tolerant to strong medications.^[4] *Padangushtanakha lepana* (anointment of drug over foot, toe and nail) and *Padatala lepana* (anointment over sole) mentioned for *Nakthandya* (nightblindness) can be justified with the principles of Reflexology.^[5] From this, it is clear that, with the help of Ayurveda we can prevent and treat many diseases in children as well as also boost Paediatric immune power and intellect with the help of *Swarnaprashana* and *Rasayana Chikitsa*.

AIM AND OBJECTIVES

1. To elaborate concepts of Rasayana chikitsa, Vedana Adhyaya, *Dhoopana vidhi*, *Suvarna prashana* and Panchakarma.
2. To study the significance of Rasayana chikitsa, *Dhoopana vidhi*, *Suvarna prashana* and Panchakarma Therapy in Paediatrics.

MATERIALS AND METHODS

References regarding Vedana Adhyaya, *Dhoopana vidhi*, *Suvarna prashana* and Panchakarma in Children were collected from various classical Ayurveda textbooks, published research papers from Internet sources, previous work done.

RASAYANA FOR PEDIATRIC CARE

- Rasayana drugs such as Shankhpushpi, Guduchi, Mandookparni and Jyotishmati, etc. are used for the restoration of health of children.
- Rasayana drugs offers following health benefits in children.
 - a) The Rasayana by virtue of their carminative and appetizer effects cure constipation and indigestion. Rasayana improves potency of Dhatus in children.
 - b) Rasayana improves Agni thus cures digestive ailments in children.
 - c) Rasayana improves circulation in body.
 - d) Rasayana boost Oja thus strengthens immunity of children.
 - e) These drugs act as rejuvenator thus maintain physical as well as mental vitality in children.
 - f) Rasayana facilitate salivary secretions which help in digestion and improves appetite in children of growing age.
 - g) Rasayana significantly improves symptoms of common disorders associated with children like Grahani Roga and allergic rhinitis.
 - h) Improves skin tonicity, texture and complexion.
 - i) Prevent accumulation of Ama which is one of the major causes of disease in early childhood.

Precautions

Rasayana therapy should be used with great precautions in children to avoid health complications. The excessive uses of Rasayana should be avoided in children to prevent chances of overdosing. There are some drugs which only suggested for children. The Rasayana formulations such as; Suvaran Bhasm, Panchgavya Ghrita, Brahmi Ghrita, Abhaya Ghrita, Mandura Bhasma, Lauha Bhasma And Samvardhana Ghrita, etc. are advocated for children for curing health ailments of growing children.^[6-7]

Vacha

It is used for new born to improve immunity against common infectious diseases. This drug offers anti-oxidant, immune-modulatory and digestive properties.

Brahmi

It used to improves mental functioning and memory, Brahmi provides intellect, gives nourishment to the brain and boost mental coordination.

Triphala Rasayana

It correct weakness and anorexia in children, Triphala Rasayana used for general fatigue in children, Triphala is used in children for general debility, indigestion and fever. Triphala maintain optimum health status in children and imparts good immune responses.

Medhya Rasayanas

It improves memory, intellect and provides mental nourishment. Medhya Rasayanas (Mandukaparni, Yastimadhu, Guduchi and Shankhapushpi) provides immunity, longevity and boost brain functions. Mandukaparni, Yastimadhu, Guduchi and Shankhapushpi are major class of Rasayanas drugs used for pediatric care. Kushmanda and Vacha also used as Medhya Rasayana for improving brain and motor activities. These drugs not only help to cure Bal-Roga but also improve process of physical and mental development. These Ayurveda drugs balances Dosha, enhances qualities of Dhatus and potentiate Agni thus improves strength in children.^[8-10]

ROLE VEDANA ADHYAYA IN PAEDIATRIC CARE

Healthy neonate/infant can grow well, feed/eat well, plays and sleep well but uneasiness experienced by the child could not easily express. Infant has got poverty of words as well as symptoms leading to difficulty and confusion in understanding the exact underlying disease.

Acharya Kashyapa mentioned symptomatology of various diseases in Vednaadhyay of Kashyapa Samhita and these symptoms are very nearly relevant to modern symptomatology.^[11]

Shirahshool

Headache is very common complaint in childhood. Most of children cannot convey the symptom of headache rather they may become irritable and having vomit or repeatedly rub their eye and head. Similarly, Acharya Kashyapa was also mentioned features resemble to modern science like shirah spandyati (rolling his head due to irritability), nimiliyati chakshushi, closing of eyes due to photophobia etc.^[12]

Karna Vedna

It includes child pulling and rubbing the ear with irritability and poor sleep, generally associated with fever. Acharya Kashyapa also mentioned symptoms like karno sparshyati hastabhyam means frequent touching or rubbing his ear, shriobhramyat, arati, arochka etc.

Mukha Roga

In Mukharoga Acharya Kashyapa mentioned that child, having excessive salivation, refusal to feed, regurgitation of milk, nasal breathing, discomfort and glani (fatigue).^[13] All these symptoms described by Acharya Kashyapa represent a wide range of oral cavity disease, i.e. dental caries, gingivitis, palate disease, ulcers/blisters in mouth etc. Excess salivation is found in swelling of gums where oral cavity ulcer causes difficulty in breast feeding. Inflammation in tonsillitis causes painful swallowing or regurgitation of breast milk.^[14]

Kanthvedna, Galgraha and Kanthshotha

Symptoms described in Kanthvedna, Galgraha and Kanthshotha are found in tonsillitis, adenoids, diphtheria and pharyngitis. Both tonsils and adenoids are main cause of upper airway obstruction in children, symptoms include malaise, fever, dysphasia, headache^[15] are found as Jawar, Aruchi, Glani.

Adhijivhika

Adhijivhika is correlated with epiglottitis, it is a condition where high grade fever, sore throat, dysphasia and rapidly progressing respiratory obstruction is found. Drooling of saliva is usually present.^[16] These symptoms are resembling the features described in Adhijivhika i.e. lalastrav, aruchi, glani etc.

Jwar

Symptoms of fever can be varying in a range from no symptoms to extreme malaise, fatigue, and irritability. Children might complaint of hot or cold feeling shivering.^[17] These symptoms also mentioned in Kashyapa Samhita i.e. Aruchi (anorexia), Satanyamnaabhinandati, Dhatriamaalyate akasmat that might be possible when child suffering from cold or shivering.

Atisar

Symptoms described in Atisar in Kashyapa Samhita are similar to diarrhea i.e. Dehvaivrnayam or paleness found due to fluid loss in body. Other symptom like Arati (discomfort), Glani (fatigue), Anidra (insomnia) are also found due to fluid loss or dehydration.^[18]

Shool

Udar Shool can be correlate with infantile colic. Infantile colic is a common disease that can be found in 2-3 week of age to 3-4 month of age. Crying episodes are the main feature.^[19] It is associated with fussiness, irritability and difficulty to consoling the child.^[20]

Chardi

Vomiting is a coordinated reflex incidence that may be preceded by increased salivation and begins with involuntary retching. Complication due to vomit are dehydration fluids loss, failure to thrive.^[21]

Shwasa and Hikka

Nishtnuatushna means difficulty in breathing & hot breath. In modern science difficulty in breathing is called dyspnoea that is a symptom of many respiratory disorders.

Trishana

Symptoms described by Acharya Kashyapa in trishana are similar to moderate dehydration that occurs due to various disorders such as diarrhea, Vomiting and diabetes mellitus.

Apasmar

Symptoms described in Apasmar by Acharya Kashyapa resemble to epilepsy.

Unmad

Symptoms described in Unmad can be seen in psychosomatic disorders like attention deficit

hyperactivity disorders (ADHD), opposite defiant disorders (ODD), pervasive developmental disorders (PDD) and autism spectrum disorders (ASD) etc.

Mutrakricha

Symptoms described under the heading of Mutrakricha by Acharya Kashyapa are found in urinary tract infection. A urinary tract infection (UTI) in children is a fairly common condition. Prompt diagnosis and treatment will prevent serious and long-term medical complication.^[22]

Prameha

Symptoms described by Acharya Kashyapa are having close resembled to IDDM type -1 DM.

Ashmari

Symptoms described by Acharya Kashyapa are similar to symptoms seen in urinary calculi. Approximately 7% of urinary calculi occur in children younger than 16 yr of age.^[23]

Visarpa

On the basis of clinical presentation of Virsarpa it can correlate with erysipelas.

Alasaka

Symptoms described by Acharya Kashyapa under the heading of alsaka are closely resemble to intestinal obstruction occurs due to necrotizing enterocolitis. Overall, NEC affects one in 2,000 to 4,000 births, or between one percent and five percent of neonatal intensive care unit admissions. NEC typically develops within the first 2 weeks of life in a premature infant who is being fed with formula as opposed to breast milk. One of the first signs of NEC is the inability of the infant to tolerate the feedings. This is often associated with abdominal distention (bloating) and vomiting bile (green). If the infection is not recognized early, then the child may develop a low respiratory rate or periodic breathing (apnea) and a low heart rate that may necessitate insertion of a breathing tube. Prompt diagnosis and treatment of NEC can protect infant from surgery and other complication.^[24-25]

Akshi Roga

Features described in akshi roga very much near to allergic or infectious conjunctivitis, blepharitis, eye injury, ingrown eye and sty etc. Prompt diagnosis and treatment of these disorders can prevent various complications in eyes.

Kandu

Features described under the heading of Kandu by Acharya Kashyapa can be closely resemble to atopic dermatitis in children. It is a common condition severely affecting 1–2% of school children.^[26]

Pandu

On the basis of clinical features given by Acharya Kashyapa it can correlate with iron deficiency anemia. It is the most common form of nutritional anemia which is very common in infancy because both breast and cow milk are deprived of iron and second cause is poor iron store in premature babies.

Kamla

The symptoms described by Acharya Kashyapa in Kamla are similar to the features found in neonatal jaundice. About 60% of term and 80% of preterm infants develop jaundice during first week of life.

Above description clarify this very keenly that Acharya Kashyapa has very deep knowledge to understand the disorders occur in children. This also shows that how beautiful all features were collected by Acharya Kashyapa and enumerate them in Vednaadhyaya in Kashyapa Samhita. Here an effort is made to correlate them in today's perspective which will be helpful to understand the disease of children in initial stage as well as their treatment accordingly without any complications.

ROLE OF DHOOPAN VIDHI IN PAEDIATRICS

In Kashyapa Samhita entire chapter named Dhoopa kalpa is dedicated on this subject. He has mentioned many formulations of dhoopa (fumigation) of cloths, Pediatric ward, patient bed etc. He also used dhoopas for prevention and curing pediatric diseases especially when demons, ghosts or devils started harassing young children, facilitating proper development of children. He explained medicinal herbs, minerals and also sometimes animals for dhoopa. One of dhoopa formulation of Kashyapa is Rakshoghna dhoopa for protection containing various drugs such as Ghruta (Ghee), Siddhartak (Brassica alba), Hingu (Ferula foetida), Dev Nirmalya (flowers of herbs offered to god), Akshata (unbroken rice), Sarpa tvak (shed skin snake), Bhikshu sanghati (saffron color cotton cloth).^[27]

Ayurveda recommends fumigation (Dhoopana) as a method of sterilization in OT rooms and

various chambers (such as Vranitagar, kumaragar, sutikagar etc.). Numerous drugs (Rakshoghna dravyas) are explained which has antimicrobial activities. Concept of sterilization in Ayurveda is broad it not only protect from microorganisms but also various methods are used in curing from various diseases especially when demons, ghosts or devils started harassing young children and for proper development of children child.

ROLE OF SUVARNA PRASHAN IN PAEDIATRIC CARE

Administration of processed gold in children is a unique practice mentioned in Ayurveda as “*Swarnaprashana*” by Acharya Kashyapa. He explained the administration of *Swarna* (gold) in children for the benefits of improving intellect, digestion and metabolism, physical strength, immunity, complexion, fertility, and life span.^[28-30] *Swarnaprashana* in children can be mainly implicated in two contexts of Ayurveda; *Lehana* (supplementary feeds) and *Jatakarma Samskara* (newborn care). Childhood is the period of growth spurts, which is considered to be until 16 years of age, as per Ayurvedic classics. Acharya Charaka mentions a period “*Vivardhamana Dhatu Avastha*” from 16 to 30 years of age in which growth and development is observed. According to him, this period comes under *Balyavastha* (childhood).^[31] It can be said that the benefits of *Swarnaprashana* can be attained from infancy to adulthood with a wide range of actions influencing the growth and development of a child.

For the benefit as an immuno-modulator, it can be administered in children in early ages as this period until one year is considered to be the most vulnerable time for infections due to immature immune system. Pharmacological studies showed specific and nonspecific immune responses, which were modified in a positive manner in *Swarna Bhasma*-treated mice. It also had a stimulatory effect on peritoneal macrophages, which may be helpful to fight against infections.^[32-33]

To get benefited as an enhancer of intelligence, *Swarnaprashana* can be given from birth and specifically for a period of 1 or 6 months continuously as mentioned in the classic. In a study colloidal gold was found to improve cognitive functioning, which was measured by IQ scores.^[34] The particles of *Swarna Bhasma* were reported as non-cytotoxic.^[35] In a study of chronic toxicity of *Swarnabindu prashana* no cytotoxicity was observed.^[36]

ROLE OF PANCHKARMA IN PAEDIATRIC CARE

Shodhana chikitsa (detoxification therapy) includes panchakarma which help in detoxifying

the body, strengthening the immune system, restoring balance and wellbeing. Kashyapa Samhita explains the Panchakarma in a child with detail explanation of Snehana, Swedana, Vamana, Virechana, Basti and Nasya. Basti is considered as nectar for the child. In classical references it has been found that Panchakarmas are indicated in children although age group is not specific but same was explained by Acharya Kashyapa that it can be administered in moderate or the minimum level by contraindicating excess Apatarpana and the bloodletting and Shodhana treatment.

Snehana

In kshirap Avastha of child does not demand compulsory Snehana due to daily intake of milk and oily substances as the main diet.

Swedan

Kashyapa mentioned 8 types of swedana karma - hast, pradeha, nadi, prastara, sankar, upnaha, avagaha and parisheka.^[37] Acharya Kashyapa explain Swedana of which Nadi Sweda, Prasthara, Sankara, Pradeha, Upanaha, Avagaha, Parisheka are other types which are practically applicable in children with certain modifications and Hastha Sweda, and Pata Sweda are very useful in neonates and infants especially in Pain abdomen.^[38]

Shashtika shali pinda Sweda

This is the common method of swedana used in paediatric patients in which specific part or whole body made to perspire by the application of shashtika shali (a variety of rice) in the form of pottalis (boluses tied in a cotton cloth).

Vamana

Acharya Kashyapa mentioned that, babies who emit vitiated milk from stomach repeatedly will never suffers from diseases. Acharya Kashyapa explains Vamana as the main stay of treatment in Bala Rogas due to dominance of Kapha Doṣa by indulging in Kapahavardhaka ahara like Kshira, Ghrita etc. the Vamana has been done to clear the stomach from liquor the meconium like substances.^[39] Vamana dravya and dosage: (As per Kashyapa).^[40]

1. Vaman drug given in a quantity which equal to vidanga phala (fruit of Embelia ribes) - Kashyapa.
2. 2-3 seeds of Apamarga (*Achyranthes aspera*) with honey and sugar- Vaideha janaka
3. 2 or 3 Pala (60 to 120 ml) - Vriddha kashyapa.

Virechana

It is the procedure where vitiated doshas (mainly pitta) are eliminated from lower gastrointestinal tract through the anal route. Therapeutic purgation administers very cautiously in paediatric patients because their chances of severe complication like dehydration. Revati is curable by Virechana in childhood practice.^[41]

Basti

Among all therapeutic procedures, Basti is superior because it is like amruta (nectar) in child patient and the most appropriate remedial measure for vata dosha. Basti is best indicated for the child and considered as nectar for the child.^[42]

Nasya

It is the process of administration of medicines through nostrils. Nasya is indicated mainly in aggravated and accumulated doshas (disease causing factor) of head and neck. Aacharya Kashyapa advises the Nasya for both child and mother. It has been suggested to administer the Nasya to a child if absolute indications and if child is reluctant, in order to prevent future complications. *Katu Taila Nasya* has been explained for children along with Madhu and *Gomutra* by making the baby sit on the lap of mother. We can use Panchkarma treatment in Paediatrics patient as per indications and contraindications given in samhita.

RESULT AND CONCLUSION

In modern era, most of Paediatric diseases occur due to unbalanced diet and poor immunity. With the help of *Swarnaprashana* we can boost immunity power of children. In current era of competition, we can enhance memory and grasping power in children, disease resistance power and prevent oxidative damage by Rasayan Chikitsa. Concepts of Vedana Adhyaya will be helpful to understand the disease of children in initial stage as well as their treatment accordingly without any complications. Ayurvedic herbal dhoop are natural and biocompatible, it can potentially aid in internal environment cleansing and sustainable conservation without causing any harm to the environment unlike various chemicals and aerosols. Paediatric Panchakarma can also help to treat many diseases. Thus, by adopting Ayurveda in day to day practice we can prevent morbidity and mortality in children.

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