

HERBAL FORMULATION IN AYURVEDA TO CURE OF VARIOUS DISEASES IN PAEDIATRICS: A REVIEW STUDY

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ABSTRACT

Since children are the most vulnerable members of society and the future of the country, they should be handled with the utmost care and concern. Particularly significant is the branch of medicine known as *Kaumarbhritya*, which concentrates on their ailments and general health. This may be the cause behind *Balchikitsa's* highest ranking among *Ashtanga Vibhajana*. The Indian medical system's traditional science further classifies childhood age into *Kumara*, *Shishu*, and *Bala* categories. The pathophysiology of diseases in children differs greatly from that of diseases in adults. *Dosha*, *Dushya* and *Mala* have different prevalence and pre-dominance at this point. Therefore, both illness prevention and treatment require extra care in the modern world. This article outlines the fundamentals of *Ayurveda*.

KEYWORDS: Balchikitsa, Disease, Dosha, Dushya, Shishu, Mala etc.

INTRODUCTION

Children need to be treated with the highest care and concern because they represent both the nation's future and the most vulnerable segment in the community. The area of medicine

known as *Kaumarbhritya*, which focuses on their illnesses and well-being, is particularly important. This could be the rationale for *Balchikitsa* being assigned the highest rank among *Ashtanga Vibhajana*. Further classifications of childhood age according to Indian medical system traditional science are *Kumara*, *Shishu* and *Bala*. Children's diseases have a completely different pathophysiology than adult ones. At this stage, *Dosha*, *Dushya* and *Mala* have distinct predominance and prevalence. Thus, in this day and age, both disease prevention and treatment are in need of special attention.

This article summarizes Ayurvedic fundamental principles for the management of disorders occurs during childhood.

The practice of *Kaumarbhritya* starts right from conception to birth till the child becomes capable of independent existence.

It addresses illnesses under two primary headings: first, common diseases like *Jwara* and *Atisaara* etc., while taking age and strength into mind; second, disorders like *Ksheeralasaka*, *Phakka* etc.

In this lesson, I'll go over the fundamental herbal remedies used by *Ayurveda* to treat childhood illnesses (*Balroga*).

DIFFERENT APPROACHES FOR MANAGEMENT OF BALROGA

- A. The disorders in children are diagnosed based on *Prakriti*, *Dravya*, *Nimit*, *Puravroopa*, *Roopa*, *Upshaya* and all the traits of *Aushadh*, *Desha*, *Kaala* and *Roga*.
- B. The child should be handled with *Madhura*, *Mridu*, *Laghu*, *Surbhi*, *Sheeta* and happy physical movements, as these ways are gratifying to the infant, according to traditional writings.
- C. Children have the same *Dosha*, *Dushya* etc. as adults do. The majority of diseases are also the same in adults, although the dosage of the medication used during therapy will be reduced.
- D. Because of *Saukumaryata* and *Swalpa Shareer* of young, *Teekshna Aushadhi* should be avoided in children.
- E. If there is no severity, it is best to avoid venereal disease in young.

- F. *Vaman* is avoided in children; however, *Mridu Vaman* may be administered if necessary. *Vaman*, the offspring of *Ksheerapayi* and *Ksheerannapayi* should be administered after a healthy meal.
- G. Basti is the recommended treatment for *Virechana Sadhya* disorders, while *Pratimarsha Nasya* is the recommended treatment for *Marsh Nasya sadhya* diseases.
- H. Overindulgent Children with diseases should not be administered *Shoshan*, *Raktmokshan*, or *Samshodhan*, instead they should be treated with *Snighda*, *Sheetal*, *Madhura*, *Adaahi Annpana*, *Lepa*, and *Parisheka*.

Kaumarabhritya: An Overview and Analysis

The treatment of children is the focus of Kaumarabhritya, an Indian treatise on paediatric medicine. It is made up of sutras that support clinical outcomes and have ramifications for everyday life. The following paragraphs demonstrate how essential this area of medicine has been viewed in the Bhrihatrayi.

Definition

Children's care, the administration of mother's milk and its purification in cases of ill mothers, Graha Dosha prevention strategies, and disease treatment are all covered under Kaumarabhritya (Su.su.1/7).

CLASSIFICATION OF KAUMARABHRITYA

Kaumarabhritya can be classified as per the age division. The classification is important to understand normal growth and development, nutritional needs, disease pattern, diagnosis of disease and management. The age classifications are given here with their relevant modern terminology for easy understanding.

- **Bala (Children)** – from birth to 16 years of age *Navajata* (Neonate) – birth to 1 month of age
- **Ksirapa (Infant)** – from birth up to 12 months of age, where mother's milk is the principal diet
- **Ksiraannada (Toddler)** – from 13 months to 36 months, milk with cereals such as rice, wheat, corn flour, green gram is the diet
- **Annada (Childhood)** – from 3 years to 16 years of age, cereals especially rice, wheat, legumes is the principal diet.

PRINCIPLES OF DRUG ADMINISTRATION

According to our classical literature, *Dosha*, *Dushya* and mala remain in little amounts in youngsters; hence, the dosage of medicine supplied should likewise be lower. Drugs should preferably be appealing and sweet when given to children.

Acharya Shushruta states that for a kid in the *Ksheerapa* age group, the medication should only be given to the mother; however, for a *Ksheerannpayi* child, the medication is given to both the mother and the child, and for an *Annada* child, it is only given to the child.

For Infants - The mother should apply the prescribed medication or drugs to her breast, leaving them there for 48 minutes before washing them off.

- **Management of Nutritional Disorders**

Children's survival, growth, and development all depend on their nutrition. Additionally, it lowers infant mortality and promotes the development of a healthy society. This is referred to as *Apatarpanajanya Roga* in Ayurvedic scriptures. While there are a number of contributing factors, such as ignorance and poverty, long-term nutritional deficiency plays a major role.

Karsya - A child will have *Krishata* (emaciated body) if they are fed too many dry food items, too little food, an unbalanced diet, or go without food and are consequently hungry for extended periods of time every day, cry a lot, and have dry body skin from not getting enough oil massage (Ch.su. 21/11–12).

Treatment - *Vrnhana Cikitsa Yoga*: *Suvarna Bhasma* – 1 mg, *Goghrita* – 1 ml, *Vaca* powder – 125 mg, *Kustha* Powder – 125 mg should all be mixed well and given twice daily. This amount of drug should be given once daily for a period of minimum one month for those children between 1–5 years of age.

Aswagandha ghrita: 5 ml twice daily for children in the age group of 1–5 years.

Diseases of children can be classified into two divisions as per their clinical significance.

Ksirapa kalina Vyadhi/Roga (Neonate-infants) (ii) *Bala Vyadhi/Roga* (paediatrics)

Kasyapa Samhita defines health first in the following terms and its opposite as ‘disease’. ‘One who has good appetite, good digestive power, normal bowel habit, pleasant psychic

condition, sound sleep, normal strength, and growth and development is considered as disease free, but the opposite manifestations are the features of the diseased' (K.Khi. 5/6-8).

As per *Ayurvedic* description clinical conditions develop in 6 stages to result in diseases. These are called '*satkriyakala*'.

- **First stage** – *Sanchaya*: this stage accumulates dosha.
- **Second stage** – *Prakopa*: aggravation of dosha.
- **Third stage** – *Prasara*: spreading of dosha from sakha (limbs i.e. upper and lower) to kosta (visceras) or vice versa.
- **Fourth stage**– *Sthanasamsraya*: dosha remains in one place.
- **Fifth stage** – *Vyakta*: signs and symptom of diseases became prominent.
- **Sixth stage** – *Bheda*: division of disease occurs.

But in the neonatal period diseases may occur suddenly without passing through the clinical stage. Hence it is difficult to stop the disease process before ending in disease. An experienced physician based on his knowledge and skills can diagnose and manage a case early.

Prasava Kalina Vyadhi (Disease during Delivery)

A. Upasirsaka - If the fetal head is engaged in the vaginal tract for certain period during the process of delivery there will be diffuse, symmetrical swelling in the head of the newborn. Ayurvedic classics describe this condition as vitiation of vata dosha in the head causing swelling of the scalp without change of colour and is called Upasirsaka (A.H.Ut. 23/21). Modern science describes this as 'caput succedaneum'.

Management: Application of oil over the scalp (A.S.Ut. 28/22). Ayurvedic paediatricians usually prefer to apply Bala taila, Aswagandhabalalakshadi taila, Kshirabala taila for this.

B. Ulbaka - This disease occurs due to aspiration of fluids (amniotic fluid, meconium) by the fetus during delivery. The pathology of this disease is described that the fluid having slesma (mucus) blocks at kantha pradesh and involves hridaya gradually.

Management: Snana (bath) and abhyanga (oil massage) is contra-indicated in this condition. Srota sodhana Cikitsa (clearing of affected channels) should be provided. For srota sodhana, frequent use of goats urine (internal) approximately 1ml. each time till the child becomes distress free. Drugs sunthi, pippali, marica, haritaki, vaca, haridra should be taken in equal quantity, kalka prepared, and administered 1 g orally with mother's milk (A.S.Ut. 2/92).

C. Nabhiroga - Due to improper cutting and handling of umbilical cord different types of diseases occur. Those are nabhipaka (umbilical cord suppuration), nabhisotha (inflammation of the cord base), nabhovrana (ulcer over cordbase), unnatanabhi (umbilical polyp), nabhikundala/nabhitundi (umbilical hernia)

Management - Two types of treatment are described i.e. medicated oil application and dusting with medicated powder over the affected peri-umbilical area. Medicated oil should be prepared with the kalka of lodhra, madhuka, priyangu, devadaru and haridra and tila oil in tailapaka vidhi. Powder for dusting should be prepared from the said drugs (A.S.Ut 2/88).

D. Visphota - *Visphota* is a childhood disease which manifests in the form of blisters.

Management: *Kvatha* or decoction should be prepared by boiling *patola* leaf, *guduci*, *bhunimba*, *vasa*, *nimba twak*, *parpataka*, *khadira* and *manjistha* all in equal quantity with water to drug ratio of 8:1 till one part remains after boiling. This should be administered along with honey at a suitable temperature for oral or internal use for the child.

E. Rajika (Prickly Heat) - During summer season or hot climate because of excessive sweating painful macules called *pitika* appears locally or all over body and are highly itchy. These are called *rajika*.

Management: Local application of paste made with *satavari*, *musta*, *varahikanda*, *vamsalocana*, *sahacara*, *dhanyaka*, *devadaru*, *sabja* and *kustha* (A.H.chi. 18/11).

F. Kamala (Jaundice) - *Kamala* is described in *Ayurvedic* texts as a complication of *pandu*. If a child is suffering from *pandu* (hemolysis) and takes more *pitta* vitiated diet he will incur *Kamala* within a short period of time (Ch.chi. 16/34)

Management - Decoction made up of *haritaki*, *bibhitaka* and *amalaki* two times daily in the recommended doses as per age can be given. *Guduci* decoction or *daruharidra* decoction two times daily along with honey as vehicle can be given. Powder of *punarnava* 1 g, *marica* powder 125 mg with sugar as required once daily can be given. *Ayurvedic* drugs such as *Dhatri lauha*, *Shilajatu vat.aka*, *Punarnavasava*, *Arogya vardhini vati*, *Lokanath rasa*, *Draksadi ghrta* also help cure the disease.

G. Kukunaka (Eye Disease) - *Kukunaka* is one among the eye diseases described in the *Ayurvedic* classics for children. This disease is predominantly seen during the period when child is taking mother's milk. The etiological factor of this disease is vitiated mother's milk. **Management:** Decoction of tender leaves of *jambu*, *amra* and *amalaki* should be used for washing the eyes. Butter duly cooked with *Haritaki*, *Vibhitaka* and

Amalaki or with *guduci* can be used after proper filtering as eye drops. *Anjana* prepared with *sodhita Manashila* (detoxified realgar), *marica* (pepper), *sankha* (conch shell), *rasanjana* (extract of *daruharidra*) and *saindhav* salt pounded together and made into a paste with honey should be applied over the affected eye (Su.ut. 20/11-16).

H. Balaroga Cikitsa - Children are more vulnerable to different types of viral and bacterial infections. However, *Ayurvedic* classics have described *bhutabhisanga* and *balagraha* as the infective agents that cause the diseases. Usually *Swasavaha samsthan roga* (Respiratory Diseases) and *Annavaha Samsthan Roga* (Diseases of the Digestive System) are predominantly seen in paediatric practices (K.khi. 13/9-11).

Management: The mother is advised to take *Vamana* (processed emesis in *panchakarma*) and *virechana* (processed purgatives in *panchakarma*) therapy. Washing of the eyes with the decoction prepared from the leaves of *Jambu*, *Amra*, *Amalaki*, *Asmantaka* should be done. External application of *Triphala Ghrta*, *Tulasi* juice with *Yastimadhu Kvatha* can be given.

Table No. 1: Swasavaha Samsthana Roga and its Management.

S. No.	Aushadh	Dose	Age	Reference
1.	Dashamoola Kwatha	1-5 Drop+10-30 mg Pippali Powder	1-3 yrs	B.R.
2.	Vasa Swarasa	1-3Drop+5 Drop honey	1 month – 1 yr.	B. R.
		5-15Drop+10 drop honey	1 – 3 yr.	B. R.
3.	Kasantaka Churna	130 mg-1gm + 10 drop honey	1 Month-1 yr.	B. R.
		1-2 gm + 20 drop honey	1-3 year	B. R.
		2-3 gm + Honey	4-16 yrs	B. R.
4.	Kaphanasaka Avaleha	130 mg-1gm + 10 drop honey	1 Month-1 yr.	B. R.
		1-2 gm + 20 drop honey	1-3 year	
		2-3 gm + Honey	4-16 yrs	
5.	Dadimadi Yoga	30 – 130 mg of Vati	1 Month-1 yr.	B. R.
		130-250 mg of vati	1-3 year	
		500 mg of Vati	4-16 yrs	
6.	Drakasadi Yoga	130 mg-1gm + 5 drop honey + 10 drop ghrut	1 Month-1 yr.	B. R.
		1-2 gm + 10 drop honey + 20 drop ghrut	1-3 year	

Swasa (Bronchial Asthma)

Management

A. It is essential to avoid etiological allergy factors.

B. *Churna* made from *Haritaki*, *vid lavana* (black salt) and *Hingu* along with old cow's ghee should be given with lukewarm water thrice daily with a dose of 1–3 g *curna* each time to children between one to five years of age.

C. Some important Formulations

- Swasakutha Rasa
- Swasakasa Cintamani Rasa
- Vasavaleha
- Srngyadi *Churna*
- Sringarabhra Rasa
- Vasarista
- *Agastya Haritaki*

Common plants used in respiratory disorders

- Tulasi: *Ocimum sanctum*
- Kantakari: *Solanum xanthocarpum*
- Pippali: *Piper longum*
- Yastimadhu: *Glycyrrhiza glabra*
- Vasa: *Adhatoda vasica*

Table No. 2: Medicines for the Management of Childhood Diarrhoea.

S. No.	Aushadh	Dose	Reference
1.	Balchaturbhadra Churna	125-250 mg	B. R.
2.	Balbilwadi Yoga	125 – 250 mg	B. R.
3.	Sauvarchaladi Churna	125 – 250 mg	B. R.
4.	Manjasthadi Yoga	125 – 250 mg	Y. R.

Common plants used in diarrhoeal disorders

- Kutaja: *Holarrhena antidysenterica*
- Dadima: *Punica granatum*

Table No. 3: Management of Chhardi (vomiting) Chikitsa.

S. No.	Aushadh	Dose	Age	Reference
1.	Mango Seed+Saindhav Salt	2-5 gm	1-5 Year	B. R.
2.	Karkatshringi+Musta+Ativisha+Honey	250 mg	Infant	B. R.
		500 mg	Toddler	
3.	Sunthi+Pippali+Rasanjan+Shalialanya+Laja+Karkatasringi	2-5 gm	1-5 Year	B. R.

Jwara (Fever)A. *Sadangapaniya* (B.R./Jwara Chikitsa)

- B. *Guducyadi kwatha* (B.R./Jwara Cikitsa)
- C. *Sephali swarasa* (B.R./Jwara Cikitsa)
- D. *Pippali fruit powder, madhu, guduci fresh stem swarasa* in the ratio of 1:2:3 should be mixed properly and given in chronic fever (B.R./Jwara Cikitsa).
- E. *Ativisa, karkatasrangi, pippali* to be taken in equal quantities, powdered and administered with honey twice daily for treatment of kasa, jwara & chhardi (A.H.Ut.2/57).
- F. *Udarasoola (colic pain)* in Children
- G. *Chatuhsama curna* (B.R. Soola Cikitsa)
- H. *Hingwastaka curna* (B.R. Soola Cikitsa)

Table No. 4: Aushadh Matra Mentioned by Acharyas.

Acharya Sushruta			
Ksheerpa	Kshiranada	Annada	
Anguli Parvadayagrahana sammita	Kolasthimatra	Kola Samitham	
Acharya Sharangdhar			
Ist Month	At 1 Yr.	16 Yrs	
1 Ratti (125 mg) Increase 1 Ratti in each month until child is 1 yr.	1 Masha (one gram) Every year increases 1 Masha, till the age is 16.	16 Masha	
Acharya Viswamitra			
Jatamatra	Ksheerapa	Kheerannad	Annada
Equivalent to Vidanga	Kola Phalabeeja Pramana	Kolaphala Pramana	Udumbara Mana
Acharya Kashyapa			
Jatamatra	Above one Month		
Vidangaphalamatra with Madhu & Sarpi	Mase Masevarddhayeth, Maximum dose : Amalaka Matra		

Table No. 5: Dosages of Various formulations by Acharya Kashyapa.

Ghrita	Aushadha Matra
Jatamatra	Kolasthi
20 th Night	Kolardha
1 Month	Kola
3 Month	Dwikola
4 Month	Sushka Amlaka
5 th Month & 6 th Month	Ardra Amalaka
Churna	
Deepaniya	Agraparvanguligrahya
Jeevaniya Samsamaniya	2 pinch
Vamana Virechana	1/2 pinch
Kashava	
Vatapittakaphahara	2 Prasrita
Jeevaniya Samsamaniya	2 Prasrita

Vamana Virechana	1 Prasrita
Kalka	
Deepaniya	1 Aksha
Jeevaniya Samsamaniya	2 Aksha
Vamana Virechana	1/2 Aksha

DISCUSSION

Disease pathophysiology mostly involves the non-equilibrium of *Dhatu*, *Mala* and *Tridosha* (*Vata-Pitta-Kapha*). The maintenance of the child's physical and mental well-being is the responsibility of *Tridosha* in its normal state.

Balyavastha people have relatively low physical strength and undeveloped *Dhatus*, which makes them more prone to illness. Therefore, in contrast to adult diseases, managing diverse diseases in paediatric care involves distinct traditional approaches.

The dosage of the medication should be precisely matched to the child's age and physical condition. It is preferable for kids to use *Madhura Rasa* medications, which are typically of *Mridu* or *Sheet Veerya*. When treating paediatric illnesses, it's important to take into account factors like *Prakriti*, *Dushya*, *Nimit*, *Poorvaroopa*, *Roopa*, *Upshaya* etc.

Ayurveda states that a child's health can be safeguarded by following the guidelines or treatment plans our Acharyas have recommended. Since infancy is a time of maximal growth and development, *Bheshaja's* goal is claimed to be the body's continuous growth while also pacifying disorders. In the current situation, the neonatologist advises the mother on nutrition, daily schedule, etc., for the foetus healthy growth and development as well as for the child's future wellbeing.

Thus, youngsters are given a detailed explanation of warmed palm and emesis in *Kaumarbhritya*. A thorough explanation of *Nasya* and *Basti*, which are used to induce *Brimhana* in youngsters and are thought to be nector is provided. Children are similarly affected by adult diseases, so children should receive low-dose, tasty, and effective medication.

Table No. 6: Dose of Various Formulation According to age.

S. No.	Formulation	Per day Dose According to the age of the patients			
		1 month	1 to 5 years	6 to 16 years	Adults
1.	Swarasa	1-3 drops	5-15 drops	2-5 ml	7-14 ml
2.	Kalka	130 mg	1-2 g	2-5 g	6-12 g
3.	Churna	130 mg	1-2 g	2-3 g	3-68
4.	Kwatha	1-5 drops	5-15 drops	2-5 ml	14-28 ml
5.	Hima	1-5 drops	5-15 drops	2-5 ml	14-28 ml
6.	Vati	16-30 mg	30-130 mg	130-250 mg	130-250 mg
7.	Bhasma	8-16 mg	30-130 mg	130-250 mg	250-500 mg
8.	Asava/Arista	1-5 drops	5-15 drops	2-5 ml	14-28 ml
9.	Panak	1-5 drops	5-15 drops	2-5 ml	14-28 ml
10.	Ghrita	1-5 drops	5-15 drops	2-5 g	12-24 g
11.	Siddha Dugdha	5-10 drops	1-20 ml	100-200 ml	100-250 ml
12.	Shuddha Tankan, Gairik	65-130 mg	130-250 mg	250-500 mg	500 mg-1 g

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