

A Literary Study on *Lehanaadhyaya* as an Ayurvedic Perspective

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Abstract

Pediatric age group is the foundation of adulthood. Proper care of children in this phase results in excellent growth and wellbeing of offspring which in turn is reflected as healthy adulthood. As per *Kashyapa's Ayurvedic Perspectives* "*Lehanaa*" refers to electuaries recommended as supplements to pediatric community. It means formulations prescribed for licking.

In this article, Chapter 18 of *Kashyap Samhita* titled "*Lehanaadhyaya*", has been reviewed to understand the importance of *Lehanaa* along with its inclusion and exclusion criteria. It also deals with various herbal *formulations* to boost up intellect and immunity of a child and promote optimum growth and development as well. This ensured Ayurvedic Pediatricians to provide prophylactic as well as therapeutic care to growing children. The main intention behind advising *Lehana* is unperturbed growth and development of a child. The malnutrition in children is one of the major problems in India. The aspects in "*Lehanaadhyaya*" are helpful for the development of health of children as well as preventive management.

Keywords

Lehanaa, KashyapSamhita, Malnutrition



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INTRODUCTION

Infant mortality rate is the number of infants dying before reaching one year of age per thousand live births in a given year. In India these rates have been found as 44/1000 (2011), 43/1000 (2012), 41/1000 (2013), 39/1000 (2014) and 38/1000 (2015)¹. The aim of Millennium developmental goals-4 was to reduce the mortality rate of children under five years of age (U5MR) by two third during 1990 to 2015. Though there has been a gradual decline in the mortality rate, India seems to be lagging behind in achieving the targets for millennium development goals (MDG-4)². The factors responsible for death of children under the age group of five years include Diarrhea, Malaria, Malnutrition, Pneumonia and preterm birth conditions³. Nearly half of under-five childhood deaths all over world are attributable to under nutrition⁴.

In India more than half of child deaths occur in first month after birth chiefly due to prematurity and its complications. Infectious diseases are also one of the major factors contributing to child death in first month of life and upto five years of age⁵. *Lehana* could play a crucial role in conquering obstacles like Diarrhea, Malaria, Malnutrition, Pneumonia and preterm birth

conditions. *Lehana* is a type of potential prophylactic as well as therapeutic treatment recommended during infancy and childhood. It mainly involves electuaries to enhance body growth, intellect and immunity. Besides serving these purposes *Kashyapa* has described *Lehana* as nutritional supplements to children with due indications and contraindications⁶.

It is a type of preventive health care that allows physicians to prevent and treat some potential health problems during childhood. *Kashyapa* describes that aim of medicinal treatment of a child is to assure its growth and longevity⁷.

The Main intention behind advising *Lehana* is unperturbed growth and development of a child.

AIM

1. The literary review on *Lehanadhyaya* with special reference to *KashyapSamhita*.
2. Elaborate the preventive and nutritive aspects of *Lehana*.

OBJECTIVES

- The primary objective of this article is to articulate the knowledge of *Lehana*.
- To categorize different *Lehana* recipes according to specific need.
- To establish the utility of *Lehana* in modern context.

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MATERIALS AND METHODS

Ayurvedicas well as modern Textual materials have been used for this study and related references have been collected. Chiefly *Kashyapsamhita* and commentaries on it have been referred. Various research papers on *Ayurvedic* herbs and other websites have been searched, too.

Indications of *Lehana*⁸

- Children of mothers who have absent, deficient or vitiated breast milk
- Children born to mothers who have faced difficult labour
- Whose mothers are severely ill
- Children who are not satisfied with breast feeds and keep on crying,
- Who do not sleep at night
- Who have good digestion and eat more but passes less urine and stool
- Children who are not sick but delicate and emaciated and constipated
- Child with *Vata* and *Pitta* are predominance

Contraindications for *Lehana*⁹

- Child with poor digestion, sleepiness,
- Passes large quantities of stool and less urine,

- Who has strong body, indigestion,
- Who is receiving heavy to digest breast milk,
- Who is fed by mother consuming all six *Rasas*.
- Children suffering from head and neck disorders, indigestion, fever, diarrhea, cough, diseases of rectum, urinary bladder, abdomen and heart
- Various diseased conditions like erysipelas, vomiting, flatulence, enlarged thyroid.
- Child suffering from *Graharoga* and diseases should not be given *Lehana* daily, after meals.
- On bad day with clouds or strong winds.

Kashyapa mentions that *Lehana* of non-congenial drugs and in excess quantity should be avoided.

Diet of Pregnant lady and formation of somatic constitution

According to *Kashyapa* the diet consumed by mother during pregnancy metabolize to produce similar quality nutrients. These nutrients are utilized in three ways- nourishment of mother, growth of fetus and development of breasts. Thus the food taken by pregnant lady affects physical growth of fetus and its body type which might have

predominance of *Vata* or *Pitta* or *Kapha*¹⁰. This body type may be predominated by either a single *Dosha* i.e. *Vata*, *Pitta* or *shleshma* or by a combination of any two *Doshas* or by all the three *Doshas*. Those dominated by equilibrium of all the three *Doshas* are always healthy and presence of vatic predominance always prone to ailments¹¹.

Hence the *Prakriti* of a person is decided as per *Dosha* predominance in physical constitution. Likewise the treatment for different *Prakriti* type should be planned differently¹².

Similarly diet of a child should be planned with respect to the diet consumed by mother during pregnancy as it is suitable for the child due to congeniality¹³.

The region, climate, quantity and digestive power of the child should also be given thought while selecting the diet for children¹⁴.

Drug Dosage for children

Kashyapa has clearly mentioned the quantity of drug to be given to newborn. It is mentioned that the newborn should be administered the drugs mixed with honey and ghee equal to the quantity of a

*Vidanga*¹⁵. It should be gradually increased every month but should not exceed the quantity of an Amla fruit. One *Vidanga* approximately measures 125 mg^{16,17}.

Method of *SuvarnaLehana*: The method of *Suvarna-Lehana* is a unique contribution of *Kashyapa*. Gold is to be rubbed on a stone with little water. Honey and *Ghritais* added to it and then licked to the child¹⁸.

Benefits: The gold licked this way improves intelligence, digestion and complexion and strength of children. It gives longevity. It also acts as an aphrodisiac. It is considered to be auspicious and eliminator of *Graha* disorders.

Gold when given for one month, the child becomes extremely intelligent and is not affected by diseases. When given for six months consecutively, the child gains the ability to remember the words heard only once¹⁹.

Different *Lehanarecipes*²⁰

Kashyapa has described various single herbal drugs as well as formulas for *Lehana* with their indications. These are to be given after mixing with honey and *Ghrita*. These have been compiled in the table given below.

Table 1 Shows the Different *Lehana* recipies

Single herbs	<i>Brahmi</i> (Bacopamonieri) <i>Mandukparni</i> (Centellaasiatica) <i>Triphala</i>	To be given with Honeyand <i>Ghri</i>	To increase intellect
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	<i>Chitrak</i> (Plumbagozeylanica) <i>Vacha</i> (Acoruscalamus) <i>Shatpushpa</i> (Anethumsowa) <i>Shatavari</i> (Asparagus racemosus) <i>Danti</i> (Baleospermummontanum) <i>Nagbala</i> (Grawiahirsuta) <i>Trivrut</i> (Operculinaterphethum)	<i>ta</i>	
Combination of herbs	<i>Triphala, Brahmi, Bala, Atibala, Chitraka</i>	With honey and <i>Ghrita</i>	To increase intellect, longevity strength
• <i>Kalyanaka</i> • <i>Brahmi</i> • Panchagavya, <i>Ghrita</i>			To generate intellect
<i>Ghrita</i> prepared using herbs	<i>Kushtha, Vata, Sarshap, Pippali, Triphala Vacha, Rocksalt</i>		To generate intellect

One *AbhayGhrita* has been described to safeguard children from unseen offenders. Its main contents are *Brahmi, Siddharthaka, Kushtha, rock salt, Sariva, Vacha* and *Pippali*.

SamvardhanGhrita has been prescribed for rapid child growth and to avoid diseases. Stating its importance it has been said that lame, dumb, deaf and idiots start doing normal activities at the earliest with its oral supplementation and locomotors disorders gets cured with this *Ghrita*²¹.

OBESRVATIONS

A brief overview of “*Lehanaadhaya*” helps one understand the scientific contribution of Acharya *Kashyapa* in Pediatric care. The chapter emphasizes the importance of maternal diet and nutrition in healthy fetal growth. A wide variety of single and

combination formulas are described to choose from, according to specific needs. The unique and simple method of *Survanaprashana* is the zest of the chapter. All the formulations seems to be described keeping in mind the tender age, acceptability of taste and digestive capacity in children.

DISCUSSION

Licking is an action of passing the tongue over a surface, typically either to deposit or collect liquid, solid or minerals onto the tongue for ingestion.

Oral administration of bitter drugs is hampered by their unpleasant taste. It may lead to decrease in therapeutic efficacy in children. Hence masking of bitter pharmaceuticals is important. Altering taste perception by masking of unpleasant

taste is the major factor that increases palatability²².

Taste masking is defined as a perceived reduction of an undesirable taste that is otherwise experienced²³.

Lehana can solve the purpose of masking of bitter drugs making them palatable which in turn increase therapeutic efficiency²⁴. Mixing with honey and *Ghrita* serves dual purpose of taste masking as well as supplementation. *Ghrita* contains 112 calories/ tbsp and 33 mg cholesterol. It contains essential fatty acids like omega-3 and omega-6 having anti-inflammatory property. It regulates DNA products and assists cellular communication. It contains 17 essential amino acids. It also contains Vit. A,D,E,K, Calcium and small amount of riboflavin and pantothenic acid along with linoleic acid which is an antioxidant.

Honey is known for its *Kaphashamak* activities. It is more than a supersaturated sugar solution; it also contains enzymes, acids, minerals, vitamins and amino acids²⁵. It is rich in calories (14 Calories/1tbsp). WHO recommends honey as a treatment for coughs and sore throats in children²⁶.

Application of gold compounds to medicines is known as chrysotherapy and aurotherapy²⁷. Use of gold salts in treatment

of auto immune disorders like Juvenile Rheumatoid Arthritis and psoriatic arthritis has been a growing area of research recently²⁸.

But there are controversies to use of gold due to its side effects which may be attributed to the form in which gold is used. *Kashyapa's* method of rubbing gold with water and adding honey and *Ghrita* to it may be a safer option. It needs to be supported with further research.

Many of the herbs mentioned for *Lehana*, are immune modulatory and neuroprotective in nature.

Brahmi (Bacopamonieri) displays in vitro anti-oxidant and cell protective effects²⁹. In animals, it also inhibits acetyl cholinesterase, activates chlorine acetyl transferase and increase cerebral blood flow which supports its intellect generative property mentioned in Ayurvedic texts³⁰.

Brahmi contains Bacosides which are highly active compounds exhibiting neuron protective effect in hypoglycemia. Hypoglycemia in newborn period may lead to brain damage affecting later motor and cognitive development. Thus *Brahmi* can play a role to protect neurons in newborn hypoglycemia³¹.

Brahmi also increase serotonin level that promotes relaxation. This may help treat ADHD³².

(*Centella asiatica*) acts as an anxiolytic, sedative, anti-depressant and anti convulsant agent. It increases cognitive ability. It inhibits collagen synthesis, thus useful in wound healing in gastric ulcer and leprosy³³. Collagen provides tensile strength to tendons and ligament and elasticity to skin³⁴. Hence it is useful for general body growth.

Chitrak (*Plumbago zeylanica*) is credited with anti atherogenic, cardiogenic, hepatoprotective and neuro-protective properties³⁵. Being hepatoprotective in nature it helps keep the function of digestion in order which is the basic requirement for good health. Plumbagin has also shown antibacterial activity against both gram negative and gram positive bacteria³⁶. Hence it is useful in prophylaxis against infections which may interfere with general growth and development.

Vacha (*Acorus calamus*) enhances cognitive properties. Its supplement has potential to treat neuropathic pain³⁷. In experimental animal models in comparison to phenytoin, *Vacha* statistically decreased the duration of convulsions and stupor phases of MES

induced seizures. It exhibited significant anti convulsant activity by decreasing the duration of tonic extensor phase³⁸. Thus *Lehana* with *Vacha* may be helpful as an anti convulsant.

Shatapushpa (*Anethum sowa* / *Anethum graveolens*) is a widely used drug in Ayurveda. It has been used in more than 56 Ayurvedic preparations³⁹. It is mainly used in digestive disorders⁴⁰. Its hydrochloric extract is a potent relaxant of contractions in rat ileum caused due to a number of spasmogens. So it supports the use of Dill fruit in traditional medicine for gastrointestinal disorders⁴¹. Thus it is used in multiple market preparations to relieve infantile and childhood colicky pain.

Shatavari (*Asparagus racemosus*) is a known galactagogue and tonic for female reproductive system in ayurveda. Mandal et al has shown its anti-tussive properties⁴². It is proved to be immune-modulator and immune-adjuvant agent in animal tests. Its extracts have also shown anti-diarrheal action in castor oil induced diarrhea in mice⁴³. It showed significant anti-bacterial activity in vitro against many organisms including *E. coli*, *Shigella*, *V. Cholerae*, *S. Typhi*, *S. aureus*⁴⁴. These studies act as evidences for *Rasayan* effect of *Shatavari*.

Danti (Baleospermeem Montanan) is a known purgative in Ayurveda. It stimulates cell mediated immune system by increasing neutrophil functions. It promotes locomotion, phagocytosis and intracellular killing functions of neutrophils⁴⁵. Thus *Danti* may act as a potent immunity modulator.

Nagbalais a herb with its many sub species. It needs to be explored according to modern parameters.

Trivrita (Operculum turpethum) is known for its purgative activity. Reports have suggested anti secretory, ulcer protective, anti-inflammatory, hepato-protective, anti-bacterial, anti-cancer activities of the drug⁴⁶.

Triphala, as the name suggests is a combination of three herbs and acts as a *Rasayan*. Scientific studies have validated many of the ethno medicinal properties of *Triphala*. *Triphala* is a good laxative and improves appetite. It possess free radical scanning, antioxidant, anti-inflammatory, antipyretic, antibacterial, anti-mutagenic, anti-carcinogenic, wound healing, anti-stress, adaptogenic, hypoglycemic, anticancer, chemo-protective and radio-protective effects⁴⁷.

Brahmi Ghrita's therapeutic uses include epilepsy, insanity, infertility, skin disorders,

inability to speak properly, memory loss and mental retardation⁴⁸.

*Kalyanak Ghrita*s useful in epilepsy, fever, insanity and jaundice⁴⁹.

*Panchaganya Ghrita*s used for treating *Kamla* (Anemia), *Apsmara*, *Graharoga*, *Gulama*, *Parshvashool*, *Unmad*, and *Jvara*⁵⁰.

CONCLUSION

The goal of Ayurveda is protection from diseases. Similarly *Kashyapa* advocates that growth and development of children should remain unperturbed by illness so that the children are able to achieve optimum growth and development as per their age. As childhood is a phase of high growth and development, chiefly brain growth, *Lehanarecipes* are advised to promote cognitive abilities and other developmental milestones. Similarly children's immune system is not mature making them prone to infections in turn. Considering the immunomodulatory and immune-adjuvant properties of herbs mentioned in *Lehaadhyay*, different electuaries can be advised to children. Also diet for each child should be selected according to congeniality so that it contributes to physical, mental and immune growth. Here supplements and herbs in the

form of *Lehana* can work wonders. Immunology is one of the most rapidly growing biomedical research field and promises to play a great role in prevention and management of wide range of disorders. Healthy state can be achieved by fine tuning of immune-regulatory mechanisms with the help of *Lehana*. Healthy childhood leads to healthy adulthood. Both add to the wealth of nation. Thus *Lehana* seems to be based on scientific concepts and need logical and practical implementation.

REFERENCES

1. <http://data.worldbank.org>indicators/SP.SY.N.IMRT.IN> (28/3/16)
2. <http://data.gov.in> [Infant mortality rate/open government data (OGD) Platform India (dt 28.3.16)]
3. www.html.nrhm.gov.in/nrhm-components/rmnch-a/child-health-immunization
4. Unicef facts on children – May 2008
5. <http://indian.express.com/article/India/India-a-others>> India missed 2015 child mortality target:lancet report
6. Vriddhajeelava, Kashyapsamhita, edited by Hemraj Sharma with vidyotinihindi commentary 4thedSutrasthan, lehadhyaychauhambha Sanskrit sansthan, Varanasi 1988
7. Vriddhajeelava, Kashyapsamhita, edited by Hemraj Sharma with vidyotinihindi commentary 4thedSutrasthan, lehadhyaychauhambha Sanskrit sansthan, Varanasi 1988
8. Vriddhajeelava, Kashyapsamhita, edited by Hemraj Sharma with vidyotinihindi commentary 4thedSutrasthan, lehadhyay / 18 (14-18)
9. Vriddhajeelava, Kashyapsamhita, edited by Hemraj Sharma with vidyotinihindi commentary 4thedSutrasthan, lehadhyay / 18 (19-23)
10. Vriddhajeelava, Kashyapsamhita, edited by Hemraj Sharma with vidyotinihindi commentary 4thedSutrasthan, lehadhyay / 18 (6-8)
11. Vriddhajeelava, Kashyapsamhita, edited by Hemraj Sharma with vidyotinihindi commentary 4thedSutrasthan, lehadhyay / 18 (9-10)
12. Vriddhajeelava, Kashyapsamhita, edited by Hemraj Sharma with vidyotinihindi commentary 4thedSutrasthan, lehadhyay / 18 (11)
13. Vriddhajeelava, Kashyapsamhita, edited by Hemraj Sharma with vidyotinihindi commentary 4thedSutrasthan, lehadhyay / 18 (24-25)
14. Vriddhajeelava, Kashyapsamhita, edited by Hemraj Sharma with vidyotinihindi commentary 4thedSutrasthan, lehadhyay / 18 (12-13)
15. Vriddhajeelava, Kashyapsamhita, edited by Hemraj Sharma with vidyotinihindi commentary 4thedSutrasthan, lehadhyay / 18 (12-13)
16. Rasratnasamuchchay 11/6
17. Shaligramnighantu,haritkyadivarga,page 198

18. Vriddhajeekava, Kashyapsamhita, edited by Hemraj Sharma with vidyotinihindi commentary 4thedSutrasthan, lehadhyay / 18 (25)
19. Vriddhajeekava, Kashyapsamhita, edited by Hemraj Sharma with vidyotinihindi commentary 4thedSutrasthan, lehadhyay / 18 (26-27)
20. Vriddhajeekava, Kashyapsamhita, edited by Hemraj Sharma with vidyotinihindi commentary 4thedSutrasthan, lehadhyay / 18 (29-34)
21. Vriddhajeekava, Kashyapsamhita, edited by Hemraj Sharma with vidyotinihindi commentary 4thedSutrasthan, lehadhyay / 18 (35-37)
22. <http://pharmlabs.unc.edu/labs/aesthetic/palatability.htm>
23. www.academia.edu/14364702/taste_making_technologies_in
24. Livestrong.com (home page on net) Santa monica CA90404, Healthy living for prevention of diseases Inc; C, Available from <http://www.livestrong.com/2013>
25. <http://pubs.acs.org/doi/pdf/10.1021> Chemical composition of honey. Journal of chemical education vol 84 issue 10 page 1643 web publication date October 1, 2007
26. Cough and cold remedies for the treatment of acute respiratory infections in young children. World health organization retrieved 15 October 2015.
27. Shaw III; C.F. (1999) Gold based medicinal Agents Chemical reviews 99 (9):2589-600 doi:10.1021/cr 980 431 PMID 11749494
28. <http://www.orthop.washington.edu/q=patient.care/articles/arthritis/gold-treatment.html>.
29. <http://ijpt.iuims.ac.in>; In Vitro Antioxidant and Hepatoprotective Activity of Ethanolic Extract of Bacopamonieri Linn. Aerial Parts Tirtha Ghosh, Tapan Kumar Maity, Mrinmay Das, Anindya Bose and Deepak Kumar Dash. Received June 7, 2006; accepted May 14, 2007
30. Bacopamonieri a reputed nootropic plant: an overview; Phytomedicine (review) 12(4):305-17 by Russo A, Borelli (April 2005)
31. Thomas RB, Joys, Ajayan MS, paulose CS Neuroprotective potential of Bacopamonieri and Bacosides A against dopamine receptor dysfunction in the cerebral cortex of hypoglycemic rats cell molneurobio/2013Nov; 33(8):1065-74 doi 10.1007/1057-013-9973-0
32. http://www.ayurveda.com/herb-month_January2013.asp
33. Pharmacological review on Centellaasiatica – a potential herbal cure by

- KashmiraGohil, Jagruti Patel, AnuradhaGajjer – Indian J Pharm Sci 2010 Sep-Oct, 72(5)546-556. Doi 10.4103/0250-474x78519
34. Fiber formation in repair tissue: development of tensile strength and toughness: Doilloncj, Dunn MG, BenderE, Silver FH CITATION Coll Relat Res. 1985 Dec; 5(6):481-92
35. www.ncbi.nlm.nih.gov>pubmed – Antioxidant properties of plumbagozeylanica, an Indian medicinal plant and its active ingredient plumbagin – Tilak JC, Adhikaris, Devasgayam TP
36. Review article “an account of phytochemicals from Plumbagozeylanica (Family Plumbaginaceae): A natural gift to human being” -NavneetKishore, BhuwanMishra, VinodTiwari, VyasjiTripathi. Chronicle of young scientists year 2012/volume 3/issue3/page 178-198.
37. <http://examine.com/supplements/acorus-calamus>
38. Anti-consultant activity of raw and classically processed *Vacha* (*Acoruscalamus*) rhizomes by savita D bhat, B.K. Ashok, R.N. Acharya, B.ravishankarAyu 2012, Jan-Mar; 33(1):119-122 pmc 3456849
39. Ravindran of Balchandran I underutilized medicinal spices II, spice India vol 17 India; publisher V.K. Krishnan Nair 2005, pp 32-6
40. <http://easyayurveda.com/2013/02/14>
41. Naseri, Gharib MK, Heidari, Antispasmodic effect A graveolens fruit extract an rat ileum Int J. Pharma 2007.3;260-4
42. Mandal et al. Fitoterapia 2000;71(6);686 (Pubmed)
43. www.ncbl.nlm.gov>pmc4027291. APJTD - Plant profile, Phytochemistry and pharmacology of *Asparagus racemosus* (*Shatavari*): A review by ShashiAlok, Sanjay Kumar Jain, AmitaVerma, Mayank Kumar, AlokMohor, Monika Sabharwal.
44. Mandal SC et al phytother Res 2000;14(2);118-119 (Pubmed)
45. www.ncbi.nlm.nih.gov>pmc 2810055, K.S. Patil 2009 Indian J. PharmaSci 2009 Jan-Feb; 71(1); 68-71
46. www.ijpbs.net>issue-4/oct-Dec2010. A comprehensive review on Trivrit (*Operculinaturpethum*) – Kohli KR, Nipanika Su, Kadbandhe K.P.
47. Chin. J. Integrmedi 2012 Dec; 18(12) 946-54 Scientific validation of ethnomedicinal properties of the Ayurvedic drug *Triphala*: a review by Baliga MS,

Meera S, Mathai B, Raj M.P., Pawar V,
Palatty P

48. *BrahmiGhrita*(AFI, Part-I, 6:32)

49. *KalyanakGhrita*(AFI, Part-I, 6:7)

50. *PanchagavyaGhrita*(AFI, Part-I, 6:25)