



INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY HEALTH SCIENCES

ISSN: 2394 9406

“REVIEW AND COMPILATION COMPLEMENTARY FEEDING PRACTICING METHODS AS PER AYURVEDA CLASSICS AND THEIR MODERN CORRELATION”

Dr.Gauri Ramesh Hukkeri ¹, Dr. Dr.Namrata Rahul Gaikwad ²

1.Dr.Gauri Ramesh Hukkeri
Assistant Professor
Kaumarbhritya Dept, LRP College
Sangli,Maharashtra, India
Email: - gaurihukkeri4@gmail.com
Contact no: - 8600673556

2. Dr.Namrata Rahul Gaikwad
Assistant Professor
Kaumarbhritya Dept N.A.Magdum
Medical college , Ankali.
Email:-namratajadhav220195@gmail.com
Contact no: - 8329006642

Abstract:

Nutrition is very important aspect of human life development. Initial six month baby nourished with exclusive breast feeding but in later period only breast milk is not sufficient to provide

Increased nutritional need of baby so complementary feeding ie,weaning in old term of medical sciences, is necessary to provide adequate and appropriate supplement for proper growth and development of child and to prevent malnutrition and proper brain development. Guidelines for infant feeding mentioned also in Ayurveda in proper scientific way.

Phalprashanand Annaprashn ceremony which marks the ceremonial introduction of fruits and cereals are mentioned in ayurvedic classics along with the complementary various types of foods and nutritional supplement like *Prinan Modak* which can provide enough energy and nutrients to meet requirements of all calories rapidly growing child.This article emphasis on various aspects of complementary feeding from classical Ayurveda Samhitas and their compilation its correlation with modern dietary recommendation

INTRODUCTION

Globally, less than one-third of children (6–23 months) receive a diet meeting minimum diversity and frequency standards, and only about 18–45% of children receive timely, appropriate complementary feeds. This directly causes high rates of **stunting, wasting** (low weight-for-height), and micronutrient deficiencies¹. Ahar is considered as one among the three pillars of supporting life (TrayUpstambha)². In case of young children whose growth and development occurs at rapid pace; selection of proper diet becomes very important for their proper nourishment. Optimal feeding of child with adequate nutrients is regarded as the most effective method to attain proper growth and development during first few years of life as it impacts on all over years of life in cognitive and irreversible brain growth. As per Kashyap Samhita; place, time, digestive capacity should not be transgressed while selecting diet for children.³ Failure of proper nutrition practice can adversely affects growth and development of child which can lead to irreversible damage in adult life too.

Undernutrition is strongly associated with shorter adult height, less schooling, reduced economic productivity. Low birth weight and Undernutrition in children are

risk factor for diabetes, hypertension, and dyslipidemia in adulthood⁴. Similarly; Phakka and Parigarbhik and Balshosha are some important nutritional disorders found in Ayurvedic classics which directly emphasis on nutritional void in Kshirannada Avastha⁵

CONCEPT OF BALANCED DIET IN INFANT AND TODDLERS

According to WHO; from 6 to 24 months, children grow rapidly and need about 80 to 100 kcal per kilogram of body weight daily. While breast milk provides baseline energy, growing toddlers require nutrient-dense complementary foods to bridge the gap and meet their daily total energy requirements

- **6 to 8 Months:** ~750 kcal/day (Base needs are ~550 kcal from breast milk; ~200 kcal are needed from solid foods).
- **9 to 11 Months:** ~850 kcal/day (~500 kcal from breast milk; ~350 kcal are needed from solid foods).
- **12 to 24 Months:** ~1,000 to 1,100 kcal/day (~500 kcal from milk; ~500 to 600 kcal are needed from solid foods).⁶

Most of our traditional foods are bulky and a child cannot eat large quantities at a

time. Hence, it is important to give small energy dense feeds at frequent intervals to ensure adequate energy intakes by the child. Child should be fed with balanced diet which offers 55-60% calories from carbohydrates, 10-12% from protein, and 25-30% from fat. Fat is a concentrated source of energy and increases energy content of food without increasing the quantity of the food material. This can be done by adding sneha dravyas like ghee or healthy oils in every feed. A major portion of a baby's dietary energy must come from fat because **infants under two years old require 30% to 50% of their daily calories from lipids** to support rapid physical and neurological growth. Restricting fat intake at this age can explicitly retard growth, limit mental development, and reduce visual acuity⁷.

WHAT AYURVEDA SUGGEST AS COMPLEMENTARY FOOD

In Ashtanga Hridaya it is suggested that child should be fed with laghu (easily digestible) and brimhana (nourishing) diet along with milk and with variety of foods to ensure that protein and other nutrient needs are properly met⁹. Acharya Kashyap suggests feeding the child with meat of certain birds. Also According to Kashyap Samhita Dosha specific feeding like to the child having pitta predominant constitution, Mrdvika (grapes) with honey

and ghee can be given and to child with Vata predominant constitution, juice of Matulunga (Citron fruit) can be given⁸. Responsive feeding principle Hunger-based feeding Diet chosen based on Desha, Agni, Bala, Kala; early concept of responsive feeding; prevents overfeeding and digestive disorders.⁹ Initiation of complementary feeding (6th month) Phalaprashana (Fruit ingestion) Fresh fruit juices (specific fruits as per availability and Satmya) Introduced to provide micronutrients, hydration, and gentle stimulation of Agni (digestive fire); marks transition from exclusive breastfeeding. After dentition or around in 10th month Liquefied rice preparation Well-washed, husk-free old rice or Shashtika rice (60-day rice) + Sneha (ghee) + salt is recommended¹⁰. Easily digestible carbohydrate source; supports nourishment and growth without overburdening immature Agni. soft food Boiled rice and other easily digestible solid foods, Gradual replacement of breast milk with solids without disturbing digestion Gradual cereal diversification Wheat or barley flour preparations Introduced according to Satmya; can gradual increase in complexity of diet according to child's Agni. Kashyapa suggests that after eruption of teeth or in 10th month, feeding of cereals

(Annaprashan) should be done after making food soft in consistency by mashing (sumrdidam) ¹¹. Consistency of food should be that Infants can eat pureed, mashed and semisolid foods beginning at six months. By 8 months, most infants can also eat finger foods. And by 12 months, most children can eat the same types of foods as consumed by the rest of the family. For small children, the food should not contain particulate matter that may trigger gag reflex or vomiting. Thin gruels do not provide enough energy; young infant particularly during 6-9 months requires thick but smooth mixtures. Food that sticks on to spoon is the right consistency.

Kashyapa suggests that quantity of food to be given to the child should be equal to size of thumb in the beginning and should be fortified effectively¹². Child should be given time to adapt gradually from smaller quantity to larger quantity also Kashyapa said Electuaries like Hot electuary Vidanga (Embelia ribes Burm.f.)+ Sneha (oleaginous substances) + salt) Therapeutic nutrition aimed at DeepanaPachana (improving digestion), Krimighna (deworming) action. Diarrhea-specific dietary management Above Vidanga preparation with Kodrava (Paspalum scrobiculatum Linn.) Grahi action, and restoration of gut functionAs

per modern science also Quantity: At 6 months of age, feed should be started with small amount as much as 1-2 teaspoons and the quantity is increased gradually as the child gets older and starts to accept food better.

As per ayurvedic aspect diet should be given according to Agni Bal of child suggested feeding the infant 3 to 5 times daily and after that congenial diet should be given to the child with a gap of one or two periods giving consideration to place of living, metabolism, strength and time factor¹³. As according to modern science frequency: An average healthy breastfed infant needs complementary foods 2-3 times per day at 6-8 months of age and 3-4 times per day at 9-24 months. For children of 12-24 months of age, additional nutritious snacks such as a piece of fruit should also be offered 1-2 times per day. If energy density or amount of food per meal is low, or the child is no longer breastfed, more frequent meals should be provided¹⁴

✧ **Some of the Ayurvedic preparations for Digestive stimulant and Nutritive in Infant:-¹⁶**

Digestive stimulating meal	Deepana	Tender fruits of Bilva (Aegle	Enhances digestion,
----------------------------	---------	-------------------------------	---------------------

		marmelos Linn.), Ela (Elettaria cardamomum Maton), Sharkara (sugar), Laja powder (Vāgbhata. & Lochan, 2022b Uttarasthana 1/38)	provides energy, prevents indigestion	Kodrava or Kodo millet is a good substitute for wheat or rice and is rich in fiber content. It has good antioxidant activity which helps in managing persistent gastrointestinal disturbances. Adding lavana to food improves palatability, kindles digestive fire and increases bioavailability. Energy density of the food is increased by adding snehadravys. Acharya Vagbhata has prescribed various nutritional supplements in the form of Modaka (sweet balls) like Priyala Majjati Modaka- This weaning food can be used for improving infant's nutritional status and is prepared by using powders of
Nutritive drink for hydration & bowel regulation	Tarpana	Dhataki pishpa (Woodfordia fruticosa Kurz), sugar, Laja (Vāgbhata. & Lochan, 2022b Uttara Sthan 1/39)	Maintains hydration, supports digestion, prevents diarrhea	priyalamajja (Buchananianalanza), yasthimadhu (Glycyrrhizaglabra, laja (rice pops), sitopala (sugarcandy) and madhu (honey)). It is easily palatable and is rich in nutrients. Both Priyala and Yashtiare sweet in taste and pacify vata-pitta. Like Dhatakiyadi modak, Balabilwadimodak, Deepanmodak preparation also mentioned. They have nourishing property to promote cell growth for strength building and in a way building immunity.

WHAT MODERN SCIENCE SAYS ABOUT COMPLEMENTARY FEEDING:-

According to IYCF Guidelines; Timely introduction of

complementary feeds when the need of energy exceed what can be provided through exclusive breast feeding. From 6 months of age with introduction of solid and semisolid to complement breast feed which should be continue till minimum 2 years of age¹⁵. Breast milk output of mother increases till 6 months and later plateaus off. Birth weight of the baby doubles by 5 months of age and needs around 600-700 kcal/day. But daily breast milk output of 600 ml provides only 400 kcal which will be insufficient for the baby. Intestinal amylase matures and gut of the baby becomes ready to accept cereals and pulses. Thus 6 months seems to be the best time to introduce semisolid foods to baby. Ayurvedic classics have mentioned gradual withdrawal of breast feeding as sthanyaapananyanavidhi and introduction of fruits or semisolid food as Phalprasan-Annaprashan vidhi.

It is considered as an important milestone in the growth and development of the child. Ayurvedic way of age classification of children is also based on their main diet viz; Ksheerapa-child up to 1 year of age whose main diet continues to be **breast milk**, Ksheerannada- child up to 2 years who feeds on milk and semisolid foods and Annada- child above 2 years who takes foods other than milk as main diet¹⁷. As per opinion of Vagbhata, gradual

withdrawal from breastfeeding should be done when teething starts and child should be gradually accustomed with suitable nourishing food which are easily digestible¹⁸. In addition to this, Acharya Kashyapa opines his view on introduction of fruit earlier and food afterwards on either eruption of teeth or at the age of 10 months²⁰.

In the modern era we are living and all the fast paced life considered mothers are mostly rely on Commercial Complementary Foods (CACFs), but with proper understanding of importance of complementary food plays role in growth and development of children and lots of ayurvedic classics explains how scientifically about it we can easily shift to Homemade (HMFs) with integration of methods and preparation what Ayurveda says about it.

❖ **Comparative Analysis of Homemade (HMFs) vs. Commercial Complementary Foods (CACFs):-²³**

Homemade Foods (e.g., Khichadi, Ragi)	Commercial Foods

Malt)	(e.g., Cerelac, Nestum)	(Van Elswyk et al., 2021)	at-risk populations.
Generally higher protein quality when legumes/dairy used. A study in Spain found HMFs provided higher protein than CACFs (Bernal et al., 2021).	Often lower in protein; sometimes contain added whey or skim milk powder to boost levels.	Variable energy density. Can be too low if overdiluted with water (a common issue in low-income settings). (Abeshu et al., 2016)	Standardized energy density, but often high in added sugars (sucrose), leading to sweet taste preference
Unfortified plant-based diets often fail to meet Iron/Zinc needs due to low bioavailability and phytates.	Consistently meets Iron and Zinc requirements, preventing anemia in	High potential dietary diversity. Exposes child to family flavors, spices, and textures, reducing picky	Low textural variety (usually smooth purees). May delay oral-motor skills if

eating later. (Bernal et al., 2021)	used exclusively.
Risk of contamination if water/hygiene is poor	Safe if sealed, but expensive.

DISCUSSION

Ceremonies such as Anna Prashana Phalprashanana what has mentioned in Samhitas of ayurvedic actually related important event of child like that is introducing solid food first time in babies gut; as ceremonial correlation of this weaning time denotes the importance of proper timely and nutritious introduction of complementary feed in infants life as mothers milk is not sufficient to need to all calories intake in baby only through breast milk after 6 months, In today's era what modern science tells us about IYCF Guidelines

about complementary feeding can be easily correlated with ancient practices as per Ayurveda. Also if we use concept of prakruti agni, bal and different types of sneha dravyas and nutritional supplements like Pranan Modak which are highly protein rich plus gut friendly can make complementary food more nourished so use of Homemade food with application of Ayurveda science on that should be practiced and also should be spreading awareness among larger population to prevent from malnutrition and growth development abnormalities.

CONCLUSION:

After exclusive breastfeeding for 6 months, child should be gradually shifted to semisolid foods to meet the increasing nutritional requirements of the body. In weaning period more chances of malnutrition to avoid it proper and timely introduction of weaning is very important. Complementary and supplementary foods mentioned in classical texts are well enough to provide balanced nutrition for

the growing child. Infant feeding practices mentioned in Ayurveda correlates with the current Infant and Young child feeding (IYCF) guidelines. Knowledge of Ayurveda classics should have used while preparing preparations to make it high nutritional food according to individual's trait. Current availability, acceptability, nutritional status and cost effectiveness of ingredients thus can bring out a solution for bridging the nutritional crisis commonly occurring during weaning period through proper diet awareness through Ayurveda.

Pediatrics, 8th edition, New Delhi;
CBS Publishers & Distributors;
Chapter 6, p.965.

5. <https://digitalresources.mjfyurvedacollege.org/public/images/ppt/1781242632.Parigarbhika>.

6. <https://www.ncbi.nlm.nih.gov/book>

REFERENCES:

7. <https://www.purdue.edu/uns/html4ever/1998/9802.Watkins.infants>.
8. Vagbhata, Ashtanga Hridaya, Kaviraja Atridev Gupta (Commentator), Vaidya Yadunandan Upadhyaya (Ed.), Choukhamba Sanskrit Sansthan, Varanasi, Fourteenth Edition, 2003, Uttar Sthana, adhyaya 1, verse 38.
9. P.V.Tiwari, Kashyapa Samhita English translation, Choukhambavisvabharati, Varanasi, Reprint 2002, Khilasthana, chapter 12, verse 23.
10. P.V.Tiwari, Kashyapa Samhita English translation, Choukhambavisvabharati, Varanasi, Reprint 2002, Khilasthana, chapter 12, verse.19-2011.
11. P.V.Tiwari, Kashyapa Samhita English translation,
1. <https://pmc.ncbi.nlm.nih.gov/articles/PMC9717723>
2. Agnivesha, Charaka Samhita, edited and translated by Prof.P.V.Sharma, Chaukamabhapublications, Sutrasthana, chapter 11, and verse 35.
3. P.V.Tiwari, Kashyapa Samhita English translation, Choukhambavisvabharati, Varanasi, Reprint 2002, sutrasthana, chapter 18, verse 24-25.
4. OP Ghai, Vinod K Paul, Arvind Bagga, Ghai Essential

- Choukhambavisvabharati,
Varanasi, Reprint 2002,
Khilasthana, chapter 12, verse 19-
23.
12. P.V.Tiwari, KashyapaSamhita
English translation,
Choukhambavisvabharati,
Varanasi, Reprint 2002,
Khilasthana, chapter 12, verse 15-
18.
13. OP Ghai, Vinod K Paul,
ArvindBagga, Ghai Essential
Pediatrics, 8th edition, New Delhi;
CBS Publishers &Distributers;
Chapter 6, p.95.
14. P.V.Tiwari, KashyapaSamhita
English translation,
Choukhambavisvabharati,
Varanasi, Reprint2002,
Khilasthana, chapter 12, verse 18.
15. MukeshAgrawal, Textbook of
paediatrics, 2nd edition New
Delhi;CBS Publishers
&Distributers; Chapter 5 p.67
16. Vagbhata, AshtangaHridaya,
KavirajaAtridevGupta
(Commentator),
VaidyaYadunandanUpadhyaya
(Ed.), Choukhamba Sanskrit
Sansthan, Varanasi, Fourteenth
Edition, 2003, UttarSthana, chapter
1, verse 39
17. OP Ghai, Vinod K Paul,
ArvindBagga, Ghai Essential
Pediatrics, 8th edition, New Delhi;
CBSPublishers &Distributers;
Chapter 6, p.91.
18. Vagbhata, AshtangaHridaya,
KavirajaAtridevGupta
(Commentator),
VaidyaYadunandanUpadhyaya
(Ed.), Choukhamba Sanskrit
Sansthan, Varanasi, Fourteenth
Edition, 2003, UttarSthana, chapter
2, verse 1.
19. P.V.Tiwari, KashyapaSamhita
English translation,
Choukhambavisvabharati,
Varanasi, Reprint 2002,
Khilasthana, chapter 12, verse 15-
18.
20. Kashyapa
Samhitavridhdhajivak; Sanskrit Sansthan,
Choukhamba Sanskrit
Sansthan, Varanasi, Edition
2010, Khilasthana, chapter 12,
verse 15 p 318.
21. Dr.Dinesh K.S, Kaumarbhritya
updated, fifth edition 2008, New
Delhi; Chaukhmba Publications;
Pg109.
22. Vagbhata, AshtangaHridaya,
KavirajaAtridev Gupta
(Commentator),
VaidyaYadunandanUpadhyaya

(Ed.), Choukhamba Sanskrit
Sansthan, Varanasi, Fourteenth
Edition, 2003, Uttar Sthana,
adhyaya 1, verse 39-40.

23.

<https://books.kdpublications.in/index.php/kdp/catalog/download/636/712/5773?inline=1>

