

## COMPLIMENTARY FEEDING IN INFANT- AN AYURVEDIC PERSPECTIVE

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### ABSTRACT

The introduction of solid feeding and gradual replacement of milk by solid food as the main source of nutrition is the process known as weaning. In *Ayurveda* it was explained under *Stanya Apanayana* concept. Nutrition plays central and most affecting role in growth and development of child. The world health organisation defines complementary food as any food whether manufactured or locally prepared, suitable as complement to breast milk or to infant formula which satisfies nutritional demand of infant. WHO gives global recommendation for exclusive Breast feeding up to 6 months. But in later period breast milk is not enough to provide increased nutritional

demand of baby so complementary feeding (weaning) is introduced to provide adequate nutrition for proper growth and development of baby. An attempt has been made of compilation and evaluation of complementary feeding from classical Ayurveda and modern practices.

### INTRODUCTION

In *Ayurveda* *Ahar* is considered as one among three pillars of life (*Trayupastambha*). *Kashyap* said *Ahar* is *Mahabheshaj* this emphasise importance of *Ahar* in Infancy period. Exclusive breast feeding is advised up to 6 months. In *Ayurveda* also importance of *stanya* described. *Stanya* is formed of *rasa*. *Acharya kashyap* also described formation of *stanya* from *rakta dhatu*. Achary Sushruta described that sheet(cold), clean free from impurities, sankhabh, sweet taste, mixes evenly in water, this type of milk provides good nourishment health and development of baby.

In case of young children whose Growth and Development occurs at rapid pace: selection of

proper diet becomes corner stone of health. Optimal feeding with adequate nutrition regarded as most effective method to proper Growth and Development during first few years of life.

Ayurveda is considered diet as greatest medicament and if nourishment is proper it imparts satisfaction, nutrition, patience, intellect, enthusiasm, virility, strength, good voice, Ojas, glow longevity etc.

Most of children Fall into the pit of malnutrition during weaning and post weaning phase. Malnutrition in infant and young children typically develops during period between 6 and 18 months of age and is often associated with intake of low nutrient and energy dense diet.

The national Family Health survey (NFHS) (2015-2016) indicate that 35.7% children below 5 years are underweight, 38.4 % are stunted and 21% are wasted in the country. Child undernutrition is an underlying cause in an estimated 35% of all deaths among children under 5 years.

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 adulthood.<sup>[4]</sup> Similarly; *Phakka* and *Parigarbhika* etc. are important nutritional disorders (*Kuposhanjanya Vyadhis*) described due to improper feeding practices in ayurvedic texts.

As per UNICEF; proper breast feeding and complementary feeding are two interventions that are estimated to prevent 1/5<sup>th</sup> of total under- five mortality rate in developing countries.

### Balanced nutrition

As per WHO; the energy need for complementary foods for infant with “average” breast milk intake in developing countries are as below,

Energy requirement	Age
200kcal/day	6-8 months
300kcal/day	9-11 months
550kcal/day	12-23 months

Child should be fed with balanced diet which offers 55-60% calories from carbohydrates, 10-12% from protein, and 25-30% from fat. 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.

Fat is a concentrated source of energy and increases energy content of food without increasing the bulk. Energy density of foods given to infants and young children can be increased without increasing the bulk by adding *snehadravys* like oil or ghee in every feed. Amylase rich foods reduce the viscosity of the foods and therefore, the child can eat more quantities at a time.

Cereal- pulse mixture can be given in the ratio of 2:1. Fruits and vegetables should be given daily to prevent deficiency of vitamins and minerals in child.

### **Age to introduce complementary diet**

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 age. 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 input 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.

Early weaning is often due to ignorance and leads to contamination and infection due to the unhygienic preparation. Late weaning leads to stunted growth and malnutrition. In India, at the age of 6-8 months only 54 % of breast fed and 75 % of non-breast fed infants are initiated into complimentary feeds.

Ayurvedic classics have mentioned gradual withdrawal of breast feeding as *sthanya-apananyana vidhi* 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 diet.

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 digestible Acharya Kashyapa has instructed Phalprasan during 6th month of life, which indicates feeding the child with fruits and fruit juices.

Introduction of cereals as semisolids i.e., Annaprashan has been explained by Kashyapa in the 10th month or after eruption of teeth while Vagbhata and Sushruta has explained it in 6th month.<sup>4</sup> It is advisable to follow the whole procedure of complementary feeding in gradual steps starting from Phalaprasana, then Annaprasana and then finally Sthanya apananayana extending from 6 months to 18-24 months of age. Complementary feeding should be considered as a bridge between liquid food and solid food that prepares the child to consume all food prepared at home ie, family pot feeding.

### **Ayurvedic complementary food**

Acharya Kashyapa has mentioned that after 12th month, child should be fed with gruels prepared with husk free *Sali* and *Shashtika* rice mixed with oleaginous substances and salt. Rice rich in carbohydrate and also contains vitamins and minerals like Iron, Zinc, Calcium etc.

It is a good promoter of nourishment and is easily digestible. *Godhuma* (Wheat) and *Yava* (Barley) powders can be cooked and given to the child according to congeniality. *Godhuma* (*Triticum aestivum*) contains carbohydrates, proteins, fatty acids, minerals etc. and has body nourishing and immunomodulatory actions. *Yava* (*Hordeum vulgare*) contains starch, sugars, fats, proteins and glycosides.

It imparts strength of body. Gruels prepared out of these cereals can be given to the child with proper fortification of nutrients. *Vidanga* (*Embelia ribes*) cooked with salt and oleaginous substances is also beneficial to the child and in one having diarrhea, *Kodrava* (*Paspalum scrobiculatum* Linn.) should be mixed. *Vidanga* is beneficial in treat helminthic and other gastrointestinal disorders.

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 sneha dravyas.

Acharya Vagbhata has prescribed various nutritional supplements in the form of *Modaka* (sweet balls) to cope up with the nutritional deficiencies and other gastrointestinal related disorders arising during weaning period. These are preparations specially developed to meet the nutritional needs of the infant as the usual family diets in our country are often inadequate for proper growth of the child.

### **Priyala majjadi modaka**

This weaning food can be used for improving infant's nutritional status and is prepared by using powders of *priyala majja* (*Buchanania lanzan*), *yasthimadhu* (*Glycyrrhiza glabra*), *laja* (rice pops), *sitopala* (sugarcandy) and *madhu* (honey). It is easily palatable and is rich in nutrients. Both *Priyala* and *Yashti* are sweet in taste and pacify vata-pitta. They have nourishing properties of all tissues and promotes strength. It is called as *Preenana Modaka*. Like *Dhatakyadi modak*, *Balabilwadi modak*, *Deepan modak* preparation also mentioned.

### **CONCLUSION**

Complementary feeding or weaning is an important intervention in preventing malnutrition in children. After exclusive breastfeeding for 6 months, child should be gradually accustomed to semisolid foods to meet the increasing nutritional requirements of the body. Modifying family food is an effective way of ensuring proper complementary feeding and diversified food will improve the micronutrient status of the child.

Infant feeding practices mentioned in *Ayurveda* correlates with the current Infant and Young child feeding guidelines. Complementary and supplementary foods mentioned in classical texts are well enough to provide balanced nutrition for the growing child.

Based on the principles of complementary feeding mentioned in *Ayurveda*, infant foods have to be formulated considering current availability, acceptability, nutritional status and cost effectiveness of ingredients. Scientific validation of nutritional supplements suggested in *Ayurveda* is essential for its recognition and acceptance in modern era and thus can bring out a solution for bridging the nutritional crisis commonly occurring during weaning period, in a naturalistic way.

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