

CHILD HEALTH, NUTRITION AND AYURVEDA

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ABSTRACT

Kaumarbhritya is known for ensuring proper growth and development of the child to have healthy and prosperous future life. *Ahara* plays key role in nourishing the *Sharira*, *Mana*, and *Atma*. During first six months of infancy, exclusive breast milk feeding and later onwards supplementary and complimentary food will take care of nutrition and caloric requirement of growing baby. Failure of timely introduction of complimentary food obviously results in down fall of growth and development and as a consequence of malnutrition. Timely introduction of fruit and vegetables, to fulfill the macro and micro nutrients requirement of growing baby should be kept in mind. As

child is in a position to receive family food by the end of one year, certain home made solid foods should be practiced slowly, from 6 months onwards. Ayurveda explained systematic and scientific way of diet schedule for infant by considering anatomical, physiological, psychological, nutritional facets. Ayurveda explains care of the baby (till two years) which matches with concept of contemporary concept of 1000 day care of baby. Rightly Ayurveda focuses on *Tryupstambha* like *Ahara*, *Nidra*, *Brihamacharya*, which helps in existence of life. *Ahara* is most important to maintain and sustain of life and Kashyapa mentioned the same as *Mahabhaishajya*.^[1] As malnutrition leads to physical, physiological, psychological, social and biochemical variations in the body, a balanced, calorific food as per age is must to maintain the normal growth and development of child, and same has been highlighted while explaining *Sarva Rasa Abhyasa* in Ayurveda. Hence present article highlights certain concept of Ayurveda regarding infantile nutrition, and its implementation during infancy for prevention the *Kuposhanjanya Vyadhi* or nutritional disorders.

KEYWORDS: *Ksheerapa*, *Ksheerannada*, *Annada*, *Tryoupstambha*, Malnutrition, Kuposhana, Ahara.

INTRODUCTION

As *Acharya Kashyapa* mentioned that *Ahara* as *Mahabhaishajya*, timely administration of nutritionally complete food is base of health. There is need of inculcating healthy dietary habits, as healthy and brilliant child is a national wealth. Ayurveda clearly mentioned *Ahara* itself is the cause of health and disease.^[2] In a true sense the child nutrition begins from fetal period itself to ensure the proper growth and development of the fetus. Hence Ayurveda advocates certain nutritional regimens for mother during pregnancy which highlights the importance of nutrition in fetal period (*Garbha*) in its future life; it has been included under age classification by *Kashyapa*. The major division of childhood period as per Ayurveda is on the basis of food like *Ksheerapa*, *Ksheerannada* and *Annada*, which shows importance given by Ayurveda for childhood nutrition.^[3] Ayurveda explains *Balyavastha* in three stages as per major diet, and *Ksheerapa avastha* extending from birth to one year and major food will be *Ksheerapa* (breast milk).^[4] Second stage *Ksheerannada* which extends from one year to two year and child should be given with milk as well as semisolid and solid foods to meet increased demand of calories.^[5] However the last stage is *Annada* stage which starts after two year of life and child by this time should be habituated to all type of foods (including solid).^[6] When we consider *Ksheerapa Avastha* in during first six months, exclusive breast feeding is advised and Ayurveda says breast milk is just like *Amrutha* to baby and should not be denied. Ayurveda also emphasis that breast milk is congenial (*Satmya*) to baby and easily digested.^[7] It contains all required nutrients along with immunological factors and vital factors for brain growth.^[8] Moreover it is highly bioavailable and completely absorbed.^[9] This also helps in maternal bonding and psychological development and emotional development of the baby.^[10] Hence during first year of life major food should be breast milk, and after six months along with breast milk *Phalaprashana* and *Annaprashana* should be started.^[11,12] Another advantage of breast milk is that it follow the rule of baby specific and species specific nature. Hence in the absence of breast milk Ayurveda, always advocates *Dhatri* milk instead of any animal milk, as *Dhatri Dugdha* full fills the species specific nature of the breast milk. Only in the absence of *Dhatri* when no other option are available animal milk like cow's milk and goats milk is advised with certain modifications. Animal milk does not fulfill criteria of baby and species specific nature. Further Ayurveda also mentioned *Lehana* in the absence of breast milk so that deficit will be fulfilled by external supplementation. Ayurveda also explain

multidimensional role of breast milk and breast milk feeding. It has been mentioned that breast milk is nutritive, promotive and prevent many disorders in present and future ensure proper growth and development and impart psychological satisfaction for baby and mother. Introduction of external food to the baby is a slow and steady procedure as explained in Ayurveda. The *Jatakarma Samsakara* where in *Madhu* and *Ghrita* mixed with other drugs in a minute quantity also acts as first method of checking sensitivity to external food along with its other benefits like checking feeding reflex, initial immunization method tropic feed concept etc. This will be followed by *Dugdhapana samskara* in second month (Reference-Dharma sindhu sar) when first time animal milk will be introduced to check the tolerance capacity and cow's milk allergy. Later during *Jalapana Samsakara* small amount of clean sterile water is also introduced. However all the above are given in very small quantity to check the sensitivity and major food will be always breast milk. Later during six month or maximum by the end of sixth month baby should be given with certain fruit juices, which is explained under *Phalaprashana Samsakara*. Fruit juices will be acts as rich source of vitamin C, D, iron and help for hydration, provide enough calories and fibers. However fresh fruit or seasonal fruit juices will be preferred and packaged juice with preservative, extra sugar, fragrance, color and other chemical agent should be avoided.

Ayurveda suggests initiation of solid food slowly after six months and by 10th months baby should be practiced to tolerate the solids. This period also coincides with dentition which helps in churning the solid food. Same has been explained under heading of *Annaprashana*. After six months as baby grows, movement and activity increases with rapid growth and development and proper nutrition through a complete/balanced diet is must. Failure to provide the same may leads to nutritional disorder like *Phakka*, *Balshosha*, *Parigarbhik* etc. A special preparation in Ayurveda by Acharya Kashyapa where, old husk free and well washed rice mixed with ghee and salt has been mentioned.^[13] Powder of wheat and barley also should be given according to congeniality.

Another preparation by name *Priyal Majja Modaka* has been mentioned and can be prepared in *Modaka* form by using powder of *Priyal*, *Yasthimadhu*, *Madhu*, *Laja*, and *Sita* which is good combination of protein, carbohydrate and essential fatty acids.^[14] Further *Modaka* prepared by *Bilva*, *Ela*, *Sita*, *Laja* useful in weak digestive system. *Modaka* prepared by *Dhataki Pushpa*, *Sarkara*, *Laja* is useful in repeated *Atisara* and indigestion. The *Ksheerannada Avastha* which extends from 1-2 year of life is a crucial stage of development

and Ayurveda mentioned that this is a stage of unstable *Agni*. At time child may show altered palatability, loss of interest in food, inclination or liking to similar type of food and reduced intake with more physical activity may precipitate malnutrition.^[15] Hence Ayurveda says external solid food along with 1-2 sitting of breast milk should be continued in case of good lactation of mother (*Ksheera-Annada*). *Annada Avastha* starts from two year onwards marking the completion of the structural and functional growth of GIT. Ayurveda mentioned to begin the meal with sweet or *Madhura Rasa* to pacify aggravated *Vata* due to excess of hunger. This will be followed by sour and salt in middle of the meal which increase *Agni* so that digestion of food is quite easier. Bitter and astringent food should be given at the end which reduces *Pitta*. Meanwhile by this time child should be able to receive all the cereals, pulses like *Lehya*, *Peya*, *Bhojya* etc. older children and adolescent should consume plenty of milk to fulfill the high calcium requirement.^[16]

Dry fruits are not just delicious but extremely rich source of protein and minerals. Vegetables are a great source of essential nutrients, low in calories, fat, decrease the risk of obesity, and prevent constipation. Fresh fruits reduce the risk of some diseases like cancer, heart disorders. Banana, grapes, pomegranate, apple guava etc. rich source of micronutrients like copper, iron, manganese, vit-C. Certain food which should be avoided are deep fried foods, frozen foods, flavored foods, like pastries, pizza, burger etc. which are biologically not fit for consumption. However concept of calorie based food is not explained in Ayurveda but a beautiful concept of *Sarva Rasabhyasa* fulfilling the concept of balanced diet or complete diet has been mentioned. Further *Hita Ahara* has been told daily consumption like *Shali*, *Amalaka*, *Mudga*, *Ghrita*, which are nourishes both body and mind.^[17] Similarly *Nitya Asevaneeya Ahara* should be avoid like *Shushka Mamsa*, *Shuska Shaka* (*Vallura*), *Kurchika*, *Dadhi* etc.

Nutrition is the biochemical and physiological process by which an organism uses food to support its life. It includes ingestion absorption, assimilation, biosynthesis, catabolism and exception. Poor nutrition means quality and quantity of food is poor while under nutrition is that when quality may be normal but quantity and caloric value is less. Further malnutrition is that state when although quality and quantity normal it is not absorbed, assimilated metabolized and utilized by the body. In present era newly coined term **mall nutrition** is commonly used which suggests inclination towards modern culture of junk food, stored food, fast food etc. with less exercise.

When we look for reference of emaciation, wasting, stunting, in Ayurveda certain terms like *Alpaprana*, *Karshya*, *Krusha*, *Akshma* are explained to assess the nutritional status. In the context of *Grahani* it is mentioned that *Grahani* leads to *Akshma*, *Ksheena* and *Krishna* in a sequence which points towards malabsorption disorders. *Krusha* is a condition with *Alpa Mamsa* while *Ksheena* refers to *Durbala*. *Alpaprana* is mentioned in the context of *Karshya* by *Sushruta*. A reference of nutritional assessment in Ayurveda can be seen in the context of assessment of *Phakka Roga* by Kashyapa. This explanation relatively matches with Achar's classification and assessment criteria explained by contemporary medical science. Kashyapa explains that there will be loss of fat in a sequential order from buttock, groin, *Bahu* (limb), *Udara* (abdomen), *Greeva* and *Mukha* region which almost in sequence with Achar's criteria. Ayurveda explains three *Nyaya's* in relation to nutrition. *Ksheeradadhi Nyaya* which represents complete biodegradation of the food substances consumed with formation of end products and increasing caloric value as the biotransformation proceeds.^[18] The carbohydrates, fat and proteins are alternately converted into glucose, fatty acids and amino acids at the end, and the process takes place in the GIT. Similarly *Kedarikulya Nyaya* explains different pathways for these three end products of digestion, which undergoes metabolism inside the cell with production of heat and energy.^[19] *Khalekapota Nyaya* explains utilization of energy like ATP for body construction and for other physiological functions of the body.^[20]

Further when we analyze certain supporting factors for nutrition which helps in complete utilization of nutrients following points like *Matravat Ahara Laksana*, status of mind, method of intake of food, balanced food, amount and timing of food and *Astha Ahara Vidhi Vishesayatana* are quite important.^[21] However in general consideration Indian food is rich in carbohydrates and there is no need to calculate it separately and fats are a reserve source of energy. However carbohydrates and protein are much important in child's diet and proteins are building blocks of the body and childhood is a building period which demands more proteins.

CONCLUSION

Nutrition is the basic need for the healthy life, any failure during childhood period may lead to physical and mental illness. Up to six months of the age child should exclusively be fed with breast milk and after six months along with breast milk, homemade semisolid food and solid food should be introduced by looking at need and tolerance to avoid malnutrition. As first

two years of life is period of maximum brain growth and malnutrition badly affecting the brain. As brain growth directly related to body growth ensuring a balanced food is must to achieve proper growth and development. Hence Ayurveda advocates healthy eating habits which effectively prevent the remote chances of malnutrition when properly followed. *Ayurvedic* nutrition and diet concepts during infantile period are quite useful in prevention of infantile and toddler malnutrition.

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