

EFFECT OF CHANGING FOOD HABITS ON CHILD NUTRITION W. S. R. SCOPE OF IMPROVEMENT THROUGH AYURVEDA**Lalit Mohan Bhatt^{1*}, Neeraj Agrawal², Lowkesh Chandravanshi³, Satyawati Rathia⁴, Swati Bhatt⁵ and Arti⁶**^{1,6}PG Scholar, Dept. of Kaumarabhritya, Shri Narayan Prashad Awasthi Government Ayurved College Raipur.²Professor and HOD, Dept. of Kaumarabhritya, Shri Narayan Prashad Awasthi Government Ayurved College Raipur.^{3,4}Lecturer, Dept. of Kaumarabhritya, Shri Narayan Prashad Awasthi Government Ayurved College Raipur.⁵PG Scholar, Dept. of Panchkarma, Uttarakhand Ayurved University, Gurukul Campus Haridwar, Uttarakhand, India.***Corresponding Author: Dr. Lalit Mohan Bhatt**

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ABSTRACT

Availability of nutritious diet to children and mothers makes bright and glorious to any country. Recent year's data on child nutrition of all over the world and specially of India is quite alarming, 50-59 % children in India under 5 are not growing well. In the 2021 Global Hunger Index, India ranks 101st out of the 116 countries so, child nutrition in India need to be centralized for national interest, Ayurveda can become a game changer in this purpose which focus on significance of *Ahara* since intrauterine life to post-natal and adolescent periods and this fact has now also been accepted by UNICEF. The children not growing well, are the victims of the triple burden of malnutrition i.e. undernutrition, hidden hunger and overweight. A small example of factors affecting child nutrition is additives of the food, such as Bisphenol (BPA) exposure which affected behavioral and emotional regulation domains at 3 years of age, especially among girls. Food in Ayurveda is not discriminated as good or bad, instead it emphasizes on deciding factors such as *Matra, Kala, Kriya, Bhumi, Deha, Dosha*. Nutritional conditions can be improved by Government policies and political interests, which have a major influence on the child nutrition thus women and children's well-being must be at the heart of it. Also it can be improved by working on key areas such as food system. For example, hidden hunger and slow mental development can be combat with the Ayurveda concept of *Sanskara* (i.e. commercial fortification) of staple food with micronutrients and nootropic herbs. Also we need to develop Ayurveda based universal guidelines to make the food system better which intern will beneficial for achievement of country's nutritional goals.

KEYWORDS: Ayurveda, Nutrition, *Ahara*, *Pathya*, Hidden hunger.**INTRODUCTION**

Availability of nutritious diet to children and mothers makes bright and glorious to any country. India's impressive economic growth has led to considerable progress in improving livelihoods for the most vulnerable but malnutrition has been identified as one of the principal causes limiting India's global economic potential.^[1] Recent year's data on child nutrition of all over the world and specially of India is quite alarming. In the 2021 Global Hunger Index, India ranks 101st out of the 116 countries with a score of 27.5 which shows, India has a level of hunger that is serious. 1 in 3 children worldwide under the age of 5 is not growing well, as far as India is concerned 50-59 % children under 5 are not growing well.^[2] Nutrition specially of children in India need to be centralized for national interest, Ayurveda can become a game changer in this purpose. Ayurveda the traditional Indian medicine system with a large number of literature spanning over three millennia on different

aspects of health, offers a wholesome approach about *Ahara* (i.e. diet), Nutrition (i.e. *Poshana*) and health which is based on theoretical and conceptual techniques. According to Ayurveda healthy nutrition is key to nourish mind, body and soul.

Ahara (i.e. diet) is the first among three supportive pillars of life, as diet is important to maintain state of health and management of disease.^[3,4] According to UNICEF nutrition is a basic building block in a child's life. Every aspect of childhood – from development in the womb, to playing and exploring in infancy and early childhood, and from learning in school, to preparing for adulthood and employment – is built on a foundation of good nutrition. This fact was well established in Ayurveda showing significance of *Ahara* during intrauterine life, even from the very day of conception as well as in post-natal and adolescent periods, at the same time variety of dietetic preparations comes from both

Vegetarian and Non-vegetarian sources, also various theories regarding dietary combinations, method of intake, absorption, assimilation etc. has mentioned. Thus, Ayurveda has a well-organized vision with reference to diet and nutrition.

MATERIAL AND METHOD

Literary review from classical Ayurveda texts, journals and surveys was done to understand the status of child nutrition and then we are presenting this paper with a wholesome approach for child nutrition with Ayurveda concepts.

DISCUSSION

Child nutrition in modern era - Globalized and commercialized food systems more or less nowadays determines the family diet which in turns leading to various type of malnutrition. The children who are not growing well due to factors like not having enough to eat, not eating enough of the right things, or being unable to reach right things to eat are the victims of the triple burden of malnutrition characterized by undernutrition, hidden hunger (i.e. deficiencies of micronutrients) and overweight. Child from womb to adulthood undergo various physiological and physical changes so the nutritional needs of child changes, reshaped and influenced by various factors during this whole journey. These factors are maternal nutrition during pregnancy, maternal breastfeeding, eating habits of family, social influence, digital advertisement etc. For example, Maternal malnutrition, in the form of underweight and anaemia, increases the risk of pre-term birth and low birthweight, which in turn increase the risk of neonatal death, stunting and wasting. In addition, maternal overweight is a common complication of pregnancy.⁵ In the first hour of life breastfeeding is having an intense importance because Colostrum i.e. the first milk of mother helps to develop immune system thus preventing child from various kind of infections. Breastmilk is nowadays being substituted by formulas even UNICEF report suggest that Only 2 out of 5 newborns begin breastfeeding in the first hour of life.⁶ Thus malnutrition during pregnancy and early childhood can adversely affect brain development, affecting cognition, school readiness, behavior and productivity into the school-age years and beyond. Providing essential energy, protein, fatty acids and micronutrients to a child during this period can establish lifetime brain function. A well-nourished child can interact with the environment and caregivers in a way that supports further healthy brain development.⁷

Factors Deciding and Affecting child Diet and Nutrition – There are various factor decides child nutrition at different age groups such as dietary intake of mother during pregnancy, initiation and continuation of breastfeeding, intake of breastmilk substitutes, family feeding environment, water and sanitation system, socioeconomic status of family, advertisement of food, consumption of packed food items (determines intake of

additives), frequency of fruits, vegetables and mineral intake, processing of food, food preparing habits of family and globalization of food system, political commitments and economic priorities also determine nutrition and dietary habit of children. All these factors adversely affect the child dietary habits and finally nutritional status. For example, additives of the packed food have their own consequences such as Bisphenol (BPA) exposure affected behavioral and emotional regulation domains at 3 years of age, especially among girls.⁸ Similarly studies suggests other additives like phthalates, perfluoroalkyl substances, perchlorate, artificial food colors and nitrates/nitrites, given their links to endocrine disruption, attention-deficit hyperactivity disorder (ADHD), and chronic conditions such as cancer, type 2 diabetes and obesity.

Ayurveda and Nutrition - Concepts of nutrition and dietary intake in Ayurveda are little bit different than modern science where quantity of food is determined by serving size or portion size or by caloric intake. In Ayurveda portion size is individually customized according to one's need, body constitution and digestive power along with environmental factors (i.e. *Ritu*) moreover qualities and properties (i.e. heaviness, lightness, oiliness) of the diet should be taken into consideration. Also food in Ayurveda is not discriminated as good or bad, instead it emphasizes on factors such as *Matra* (accurate quantity), *Kala* (time of consumption e.g. Cured should not be consume at night), *Kriya* (processing of food), *Bhumi* (geographical distribution), *Deha* (body composition), *Dosha* (physiological status of *dosha*).⁹ Out of these factors if *Matra*, *Kala*, *Deha* and *Dosha* are taken into consideration then *Vata* predominant people may go for smaller quantity and eat more frequently and most suitable time to eat is dawn and dusk. *Pitta* predominant individual may take higher largest meal at noon (maximum of three times) while *Kapha* predominant individuals may skip breakfast and may make the lunch as their largest meal.¹⁰

Some food items are beneficial by nature and can be consumed daily e.g. *Mudga* (green gram), *Sashtik* rice, *Saidhav lavan* (rock salt), Milk, Water, *Ghrita*, Honey etc.¹¹ Food is classified in Ayurveda on the basis of properties and effect over body, Ayurveda consider all substances and human body *Panchbhautika* i.e. made up of five basic elements of *Akash*, *Vayu*, *Agni*, *Jala*, *Prithvi*. And food is then characterized by unique qualities such as – 6 types of *Rasa* (taste) different tastes possess specific biological activity influencing physiology and nutritional impact, 2 type of *Virya* (potency), 3 types of *Vipaka* (post digestive effects) and above these all *Prabhava* (pharmacological effects). Based on these characteristics Ayurveda has own theories of digestion and metabolism of food and drugs e.g. *Ksheer Dadhi Nayaya*, *Kedarikulya nayaya Khale kapota nayaya and Ekaldhatuposhana nayaya*.

Dietary discipline in Ayurveda have a set of rules and system of eating food^[12] which covers all aspects related to nutrition like nature of food, qualitative, quantitative, geographical distribution, time and direction of use, social, spiritual, emotional, physiological, environmental and emotional factors. At the same time Ayurveda also describes *Virudha Ahara* (incompatible diet) which may act antagonistically in respect to season, place, combinations and time of consumption also it may aggravate *Dosha*. For example, Honey and Ghee in equal quantity can cause toxicity in body.

How nutritional conditions can be improved- This can be achieved with working on some key areas such as regulation on food system and feeding supplements, health system, water and sanitation, education and social protection. By this approach already many examples have been established around the world about a positive effect of these steps like food system developed the fortified iodinated salt to combat iodine deficiency and now the iodinated salt is available all over world.

Food system over the world is mostly commercialized in modern era which shapes the choices of diet for population. Hidden hunger can be combat with the Ayurveda concept of *Sanskara* (i.e. commercial fortification) of staple food with micronutrients. In addition to that fortification with nootropic Ayurveda drugs can also promote brain development. As far as regulation is concerned it is need of time that governments should regulate advertisement, marketing and distribution of unhealthy food and drinks. For example, sale of such article near school, collages and coaching's can be regulated by set of rule and regulations. Health facilities can play a major role in improving nutrition outcomes, such as Ayurveda emphasizes on early initiation of breastfeeding for better health of child. In India National and State governments implemented a multi-pronged strategy to support breastfeeding as a result, early initiation of breastfeeding rose from 24.5 per cent in 2006 to 44.6 per cent in 2014. The increase was even greater – from 12.5 per cent in 2006 to 34.4 per cent in 2014 – in the seven states with the highest rates of newborn deaths.^[3] Similarly awareness about the Ayurveda concepts related to diet and nutrition through various health schemes may reshape children's feeding habit into right track.^[13]

If water and sanitation is improper it may cause disease like diarrhea and dysentery which further alter the absorption of nutrients from food, ultimately affecting the nutritional requirement of child, so these facilities need to be taken in consideration. Another and most important area is education system, which can play a major role in promotion of healthy diet. Children and their parents can be educated about healthy diet and hygiene, which is already going well in India in many ways like anaemia control in adolescent is going effectively. Additionally, Ayurveda concepts of dietary habits can be promoted along with these programs.

Social protection programs are another powerful instrument to not only lift families and children out of poverty, but also to promote maternal and child nutrition. These can benefit in a range of interventions like cash transfer, providing affordable and nutritious food to communities, feeding at schools etc.

CONCLUSION

Government policies and political interest in countries like India have a major influence on the child nutrition so, women and children's well-being must be at the heart of government policy. Because when it comes to ensuring healthy diets, governments have a critical role to play through policy, regulation, quality assurance and effective programs. Also Ayurveda fraternity and pharmaceuticals have big opportunity to create a new market of healthy and nutritious food system along with totally different concepts of eating habits rooted deep in classical texts of Ayurveda additionally, Government should also incentivize such efforts by making beneficial policies. Putting children at the center of food systems requires a multi-pronged approach i.e. stimulating demand for healthy options, strengthening the supply of nutritious foods, and improving children's food environments. Also we need to develop Ayurveda based universal guidelines to make the food system better which intern will beneficial for achievement of country's nutritional goals.

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