Government of India
Ministry of Ayush

सत्यमेव जयते

# Ayush Dietary Advisory for Kuposhan Mukt Bharat

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## General Disclaimer

*An Ayush medicine/food product mentioned in this advisory for the beneficiaries depends upon the strength of mother and children. Hence, these should only be taken under the advice of treating Ayush Physician/Medical officer.*

*Along with the Ayush advisories, routine pregnancy care should be followed.*

*Advisory for Anaemia in Pregnancy is only for mild & moderate cases of Anaemia due to nutritional deficiency and does not intent to treat the severe anaemia and anaemia due to other causes like-Hemoglobinopathies, particularly Sickle Cell Disease, Hb S-C disease, and beta & alpha-thalassemia etc.*

Vaidya Rajesh Kotecha

**Secretary**
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## Message

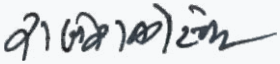
*Nutrition is increasingly being recognized as an important indicator of development across the globe . It is a vital component of the individual's and community health, as nutritional well-being of the population is considered as an economic asset and a pre-requisite for national development. Most of maladies develop due to the improper dietary practices and cookery procedures.*

*The accent of Ayush system is the preservation of health and it can be attained in two ways, first of all prevention of disease and health promotion by due observation of such advocacies as would keep away the maladies; secondly by managing the diseases which may invade the body. The advocacies are no less important than the treatment of diseases and method of cure. The prerequisites to attain this include wholesome diet, conservation of environment, congenial social and cultural atmosphere. Diet (ahara) is an essential factor for the maintenance of life. Though the science of nutrition at the present times evolved as an elaborate and organized subject of study, contemporary perspective dwell on certain gross components , while Ayush emphasizes on diversified aspects of dietetics and nutrition viz. quality, quantity, processing methods, rationale of combination of food articles, emotional aspects, nature of the consumer, geographical & environmental conditions etc. which are pivotal in preservation and promotion of health and prevention of disease.*

*Health-promoting regime is the hall mark of Ayush therapeutics; specific diet and lifestyle guidelines are always prescribed along with the drugs and therapies to facilitate restoration of homoeostatic bio-mechanisms and wellbeing. Ayurveda and other Ayush Systems elaborate about different dietary regimens including recopies advocated for health promotion, prevention of illness and also prescribed for management of diseases addressing diverse requirements such as disease conditions and different age groups.*

*This comprehensive document encompassing on General Dietary Advisory, dietary recommendation for pregnant women, dietary suggestions for Lactating Mother, dietary plans for children, dietary advisory for Anaemia in Pregnancy and Malnourished Children certainly serve as ready reference for healthcare providers for better dissemination of and adoption of Ayush based practices at large.*

*I appreciate efforts put in by contributors from Ministry of AYUSH, Program Management Unit at National Institute of Ayuveda, Jaipur and National Consultation Team in bringing out such resourceful anthology addressing the need of hour.*



*(Rajesh Kotecha)*

# Content

# Preamble

The Ayush systems of medicine have a vast treasure of knowledge on various aspects of health and nutrition. India is well known for its diverse food varieties with regional diversity. Behavioural changes, dietary modifications and medications as per practices and principles of Ayurveda aid in health promotion, prevention of diseases and reducing prevalence of malnutrition. The ultimate goal of traditional medicinal systems is the promotion and preservation of health. It can be attained in two ways, firstly by eradicating the diseases, secondly, by abiding to the codes of conduct in order to prevent diseases. These codes of conduct are very essential in safeguarding health.

Nutrition is a vital component of the individual and community health as nutritional well being of the population is regarded as an economic asset and an important indicator for the development of the nation. Nutrition is progressively being perceived as a significant epitome of advancement at public and worldwide level. Nutrition has consistently been an essential need of humanity. Inappropriate nutrition has resulted in certain diseases which have existed even before the dawn of modern science.

Malnutrition has remained an important concern in the country despite various substantial improvements brought about in health and well being and acts as a major barrier in overall socio-economic progress of the country. Malnutrition is highest among children and women, primarily due to inappropriate food intake because of food insecurity, diseases, inadequate health services and insufficient awareness about the proper care.

Malnutrition among children, adolescent girls, pregnant women and lactating mothers is an important public healthcare challenge. It is associated with increased prevalence of anaemia in target population, complicated pregnancy, increased rates of Intra Uterine Growth Retardation (IUGR), Low Birth Weight Baby, protein energy malnutrition (PEM), increased Infant Mortality, and poor adult health. Malnourishment lowers cognitive development in children. Nutritional anemia results into reduced physical and mental performances in women. Although various programs such as Public Distribution System (PDS), Integrated Child Development Services (ICDS), National Mid-day meal Program (NMMP) and various schemes for providing work and food are operational, further effective implementation, targeting and coverage will help in combating malnutrition successfully.

Nutritional science evolved in an elaborated and organized way. The contemporary perspective of diet comprises of macronutrients like carbohydrates, fats, proteins, minerals, water etc. and micronutrients like vitamins and trace minerals. Ayurveda focuses on diversified aspects of dietetics and nutrition viz. quality, quantity, processing methods, rationale of combination of food articles, emotional aspects, nature of the consumer, geographical and environmental conditions etc. Ayurveda lays great emphasis on ensuring holistic nutrition. Health-promoting regime (*Pathya vyavastha*) is a major salient feature of Ayurvedic therapeutics. Various diet and lifestyle guidelines specific to individuals are prescribed along with the drugs and therapies for facilitating restoration of homoeostatic bio-mechanisms (*Dhatu-samyata*) and well-being.

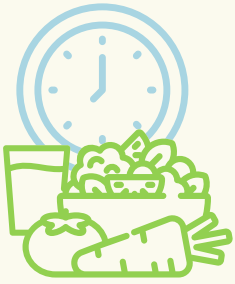
# General Dietary Advisory

Healthy living requires conducive and balanced diet which can be achieved by adopting the Ayurveda dietary advocacies, healthy eating behaviour and attitude through an Ayurveda way of living. Ayurveda strongly emphasizes on promotive and preventive aspects of health giving prime importance to "***Ahara***" (wholesome diet) or "***Anna***" (wholesome food) as a means to good life, health and wellness. It advocates basic dietary guidelines in terms of appropriate food, incompatibile food combinations, methods of cooking, storage, dining atmosphere, hygiene and etiquette for maintenance of health. Ayurveda has laid down the concepts of dietetics such as *Ashta Aharavidhi visheshaayatan* (eight factors of dietetics), *Ahara Vidhi Vidhan* (dietary guidelines), *Viruddha Ahara* (incompatible diet), *Ritu-anusaara Ahara* (seasonal dietetics), *Nitya sevaniya dravya* (regularly consumable food items), *Nitya asevaniya dravya* (regularly non-consumable food items), *Bhojana Krama* (sequence of food) and sequence of eating food as per *Rasas* (tastes) for a healthy living. Such Ayurveda advocacies should be followed for improvement in nutrition, quality of life and adoption of positive behaviour change through judicious application of these advocacies.

## Recommendations

**Based on the Principles of Ayurveda,**
**one should follow 5 'Rights' of AYURPOSHAN i.e.**

The Right **Time**,
The Right **Quantity**,
The Right **Quality**,
The Right **Methods** and
The Right **Place**



| | |
|---|---|
| **Time** | • One should inculcate the habit of having meal on time (*Kale bhojana*) only on feeling of hunger and after digestion of previous meal.<br>• One should take minimum three meals (Breakfast, Lunch and dinner) per day with gap of atleast Two & half hour in each meal. |
| **Quantity** | • One should consume the optimum quantity of food based on signs of fullness to avoid overeating/ under eating.<br>• Imagine 3 parts of stomach (Trividh kukshi) - To fill one part with solid, one part with liquid & keep the third part empty. So one should consume food less than one's satiety. |
| **Components** | • One should have easy to digest, pleasant to mind and freshly cooked food.<br>• One should consume food comprising of six rasa (tastes). Ayurveda mentions about 6 tastes i.e. Shad-rasa-yukta- aahar [*Madhur* (Sweet), *Amla* (Sour), *Lavan* (Salt), *Katu* (Pungent), *Tikta* (Bitter), *Kashaya* (Astringent). |
| **Mental state during intake** | • One should consume food with due respect<br>• One should consume food with concentration (Avoid watching T.V. & Talking while eating).<br>• Ingest food calmly, neither too slow nor too fast. |
| **Methods & Place** | • One should maintain proper hygiene at the culinary place.<br>• One should prefer regional fruits, vegetables, food articles in daily diet regimen.<br>• One should practice traditional food processing techniques.<br>• Use Iron Utensils preferably for cooking of food except sour food items, garlic etc, if available. |

- Circadian rhythms are biological clocks found in every cell of the body that harmonize the timing of our daily behaviors (e.g., sleep/wake, feeding/fasting) and physiology (e.g., hormone release, heart function). Changing our mealtime from day to day may distress the physiology of the body. Therefore, consuming food at proper time is important for maintaining circadian rhythms thereby promoting health.

- Mindful eating habits help to improve taste perceptions and proper digestion of ingested food through gut brain axis connections. Thus it is essential to eat with concentration.

- Seasonal and regional food articles remain fresh, thus taste better and they are also rich in nutrients. Therefore, eating seasonally cultivated regional food items are beneficial for health.

- Traditional household food-processing, preparation methods, utensils (Iron *kadhai/tawa*) may enhance the bioavailability of micronutrients in plant-based diets

## Include Spices in daily diet:

Include/add spices like ***Jeera*** (cumin seeds), ***Dalchini*** (cinnamon), ***Sonth/adrak*** (dry/fresh ginger), ***Lashuna*** (garlic), ***Elaichi*** (cardamom), ***Rai*** (mustard), ***Ajwain*** (carom seeds), ***Haldi*** (turmeric), ***Kali Mirch*** (Black pepper) etc., as appropriate, in small quantity while preparing food. It will enhance flavour and aroma and also add therapeutic value to the meal. It will help to optimize the digestion so that body will be able to absorb and assimilate the nutrients from the foods one eats. It further boosts natural immunity.

- Food cooked in non-iron utensil have less iron content as compared to food cooked in iron utensil. Regular intake of food cooked in iron utensil increases appreciable amount of iron content and preferably food items except garlic, pepper, egg and sour food items etc should be cooked in iron utensils.
- Spices are certain food ingredients that have been used as flavoring and coloring agents and as preservatives for thousands of years. Apart from this, Spices also possess medicinal properties and their use in traditional systems of medicine has been on record for a long time.
- Including spices in food preparation has many health benefits like- digestive stimulant action, bioenhancer, hypo-lipidemic effect, anti-diabetic influence, antioxidant potential, anti-inflammatory property etc.

## Drink water for good health

- Drink warm water (preferably) daily as per your body's need.
- Use Copper utensils for storage of drinking water if possible.
- Avoid drinking too much water immediately before and after meals.

## From monotonous food to variety of food

- Avoid eating the same dishes several times a week. Break out of that rule and experiment with new foods and flavours.
- Try preparing vegetable or grain you like to eat often, distinctly (saute, steam, boil, roast, or bake), or combine it with other grains, vegetables or herbs for variety.
- Variety of articles from maximum food groups (Cereals, Pulses, Fruits, Vegetables, Milk & Milk Products) in the diet be incorporated. Non-vegetarian may include Fish, Meat and Meat products as per the requirement.

### Region specific Millets

Apart from Gehoon (Wheat) and Chaaval (Rice), include aata of Jowar (Sorghum), Bajra (Pearl Millet), Ragi (Finger millet) Koni dhan (Tiny rice), Sava (Barnyard Millet) , Kodo (Paspalum) etc. in diet intermittently.

### Fruits and Vegetables:

Use seasonal fruits and Vegetables available in your region.

### Oil for cooking

Preferably use cold pressed nonrefined (Kacchi ghani) oil for cooking.

Use regionally available and traditionally used oils for cooking like-Sarason (Mustard)/ Tila (Sesame)/ Nariyal taila (Coconut Oil) / Moongphali taila (Ground Nut Oil).

| | |
|---|---|
| **Cereals** (*Anna Varga*)**:** | *Gehoon* (Wheat), *Chaval* (Rice), *Jowar* (Sorghum), *Bajra* (Pearl Millet), *Jau* (Barley), *Ragi* (Finger millet), *Makka* (Maize ), *Kodo* (Kodo millet), *Sanwa* (Sanwa millet) etc. |
| **Pulses** (*Shimbi Varga*): | *Moong* (Green gram), *Kala Chana* (Black Chickpeas), *Moth/matki* (Moth bean), *Masoor* (Lentil), *Arhar* (Pigeon Peas), *Rajmah* (Beans), *Urad* (Split black Lentils), *Chole* (Chickpeas), *Hari matar* (Green peas), *Safed matar* (White peas) etc. |
| **Vegetables** (*Shaka Varga*) | **Phala–Shaka Varga:** *Lauki* (Bottle Gaurd), *Kaddu* (Pumpkin), *Karela*, (Bitter Guard), *Chichinda* (Snake gourd), *Tinda* (Indian Round Gourd), *Bhindi* (Lady finger), *Parwal* (Pointed Gourd), *Torai* (Ridge gourd), *Lal kaddu* (Red pumpkin), *Sahijan*/shigru (Drumstick), *Tamatar* (Tomato) etc.<br>**Mool - Kanda Varga:** *Aaloo* (Potato), *Shakkar kanda* (Sweet potato), *Gajar* (Carrots), *Muli* (Radish), *Pyaj* (Onion), *Lashun* (Garlic), *Adrak* (Ginger), *Jimikand/ ratalu* (Yam), *Chukundar* (Beet root) etc.<br>**Green Leafy vegetables:** *Palak* (Spinach), *Bathua* (Chenopodium), *Methi* (Fenugreek), *Chaulai* (Amaranth), *Sarso* (Mustard), *Sahijan/ shigru* (Drumstick), *Arbi ka Patta* (Taro leaves), *Sunsuniya saag or sushni saag* (Water clover leaves), *Kulfa, ghol or luni saag* (Purslane), *Ambadi* (Sorrel Leaves) etc. |
| **Milk & milk products** (*Dugdha Varga*) | Include item from Milk group in daily diet, viz, Milk (preference to cow, goat and buffalo), *Ghee* (Clarified butter), *Makkhan* (Butter), *Paneer* (Cottage cheese), *Chhaach* (Buttermilk), *Dahi* (Curd), *Shrikhanda* (Sweet dish made of strained curd) etc.<br>***(Milk and milk products mixed with any fresh fruit is considered as Viruddha anna i.e. incompatible food, hence it should be avoided)*** |
| **Flesh foods** (*Mamsa Varga*) | If appropriate, include Maans (Meat), Murgi (Chicken), Anda (Egg), Macchli (Fish) and Kekada (Crabs) in diet<br>***(Dry salted fish causes digestive problems hence better to avoid. Pork in excess should be avoided.)*** |
| **Fruits:** (*Phala Varga*) **Fresh and Dry** | *Kela* (Banana), *Khajoor* (Dates), *Angoor* (Grapes), *Anaar* (Pomegranate), *Anjeer* (Figs), *Kathal* (Jackfruit), *Mosambi* (Sweet lime), *Santara* (Orange), *Aam* (Mango), *Amarood* (Guava), *Badara*, *Shareepha/ sitaphal* (Custard apple), *Naashapaatee* (Pear), *Phalsa* (Phalsa berries), *Sookhe anjeer* (Dried figs), *Kismis* (Raisins), *Seb* (Apple), *Khubaanee* (Apricot), *Baadaam* (Almond), *Sookhe khazoor* (Dried dates), *Amla* (Fresh and Dried).<br>**** Use only region specific seasonal fruits*** |

# Seasonal Fruits

| Month | Fruits |
|---|---|
| January | *Seb* (Apple), *Mousambi* (Sweet Lime), *Kela* (Banana), *Anaar* (Pomegranate), *Angoor* (Grapes), *Amarood* (Guava), *Badar* (Berries), *Chickoo* (Sapodilla), *Ananaas* (Pineapple) etc. |
| February | *Kela* (Banana), *Chikoo* (Sapodilla), *Seb* (Apple), *Amarood* (Guava) , *Anaar* (Pomegranate), *Badar* (Berries) etc. |
| March | *Angoor* (Grapes), *Santara* (Orange), *Kinoo* (Mandarin hybrid), *Chikoo* (Sapodilla), *Seb* (Apple), *Papeeta* (Papaya), *Kela* (Banana), *Anaar* (Pomegranate) etc. |
| April | *Angoor* (Grapes), *Aam* (Mango) , *Papeeta* (Papaya), *Kela* (Banana), *Santra* (Orange), *Tarabooj* (Watermelon), *Kharabooja* (Muskmelon) etc. |
| May | *Jamun* (Blackberry), *Lychee* (Litchis), *Kela* (Banana), *Papeeta* (Papaya), *Tarabooj* (Watermelon), *Kharabooja* (Muskmelon), *Aam* (Mango), etc. |
| June | *Jamun* (Blackberry), *Lychee* (Litchis), *Aam* (Mango), *Kela* (Banana), *Papeeta* (Papaya), *Aadoo* (Peech), *Ber* (Plum) etc. |
| July | *Jamun* (Blackberry), *Tarabooj* (Watermelon), *Sharifa* (Custard Apple), *Cheree* (Cherries), *Aadoo* (Peach), *Ber* (Plum), *Naspati* (Pear) |
| August | *Sharifa* (Custard Apple), *Anaar* (Pomegranate), *Papaya* (papeeta), *Banana* (Kela), *Pear* (Naspati) |
| September | *Seb* (Apple), *Mousambi* (Sweet lime), *Naspati* (Pear), *Kela* (Banana) |
| October | *Papeeta* (Papaya), *Kela* (Banana), *Anaanaas* (Pineapple) etc. |
| November | *Seb* (Apple), *Amarood* (Guava), *Anaar* (Pomegranate), *Chikoo* (Sapodilla), *Mousambi* (Sweet lime), *Kela* (Banana), Strawberry etc. |
| December | *Seb* (Apple), *Amarood* (Guava) , *Mousambi* (Sweet Lime), *Anaar* (Pomegranate), *Kela* (Banana), Strawberry etc. |

# Dietary Don'ts

- *Avoid Staying empty stomach for a prolonged period.*
- *Avoid eating late at night.*
- *Avoid eating preferably within three hours of previously eaten meal or snack.*
- *Avoid deserts after food; instead have sweet items at the beginning.*
- *Avoid eating Curd at Night.*
- *Avoid caffeine, alcohol and carbonated soft drinks, and switch to locally prepared healthy, vitality-boosting fruit juices, soups, fresh beverages etc..*
- *Avoid use of non-stick utensils for cooking: Most nonstick pans are coated with polytetrafluoroethylene, also known as Teflon. When exposed to heat, cookware becomes a source of perfluoro-octanoic acid (PFOA), which has been linked to a range of health problems including thyroid disease, infertility in women, organ damage and developmental and reproductive problems. Perfluorinated compounds (PFCs) have also been declared as "likely carcinogens".*
- *Avoid re-heating of food: Reheating may cause loss in nutritional value and often leads to the chemical change in food which may cause food poisoning and food-borne diseases.*

# Specific Dietary Recommendations for Pregnant women

Women have special dietary needs during every stage of their life, viz. adolescence, pregnancy, lactation and menopause. Ayurveda emphasizes on special care to be taken in women's health at every phase in terms of *Rajaswala Paricharya* (Menstrual care), *Garbhini paricharya* (Antenatal care) and *Sutika Paricharya* (Post-natal care). During pregnancy, the mother's nutrition bears a great impact on the foetal growth and development. Ayurveda highlights the importance of holistic nutrition right from pre-conception to 6 months after delivery for maintenance of healthy pregnancy, offspring and optimal lactation for achieving required growth and development of the baby.

Ayurveda specifies comprehensive dietary guidelines to be followed during pregnancy. It changes in accordance with the growth of the foetus in the womb and at the same time ensures excellent health of the mother.

The food taken by a pregnant woman:

- **Nourishes and helps the growth of the fetus.**
- **Nourishes the mother's own body.**
- **Nourishes the breasts to facilitate proper lactation.**

Therefore, *Garbhini* (Pregnant women) should follow specific dietary and behavioural advice during pregnancy. i.e. "*Garbhini Paricharya*". It will help in reducing risks during pregnancy thereby safeguarding optimal growth of the foetus.

## Apart from general dietary recommendations, pregnant women should follow the specific dietary recommendations as mentioned below:

- *The Ahara (daily diet) of pregnant women should be-pleasant to the mind, it should be preferably liquid to semi solid, sweet and unctuous in nature, (Hridya Dravam Madhura Snigdham Prayam) e.g. Milk, Kheer (Pudding) made with Chawal (Rice) / Ragi (Finger millet) / Daliya (Crushed wheat).*

- *Cooked food should include Jeeraka (Cumin seed) , Shunthi (Dry ginger) powder for better digestion and assimilation (Deepaniyam Samskritam)*

- *Apart from routine diet, if possible, Pregnant women should also include milk (minimum 1 glass-200 ml) or Ghee (Under guidance of Ayush Medical Officer) in daily regimen as mentioned below-*

| Month | Regimen |
|---|---|
| 1st Month | Normal milk (*Anupsanskrit kshira*) (Boiled and cooled at room temperature)<br>***If milk intolerance, then it is advised to take Laja/ Mudga (Mung bean) Soup 200mL twice or thrice a day***<br>  |
| 2nd Month | Milk medicated by adding herbs like *Shatavari* (*Asparagus racemosus* Willd.), *Bala Beeja* (*Sida cordifolia* L.). |
| 3rd Month | Milk with *Madhu* (Honey) and *Ghee* (Clarified butter) (Milk 200ml with 5 ml Honey and Ghee 10 ml)<br>***Honey and clarified butter shall be in unequal quantity***<br>  |
| 4th Month | *Kshir Navneet* Milk 200 mL with 10g home-made *Makkhan* (Butter) - extracted from cow milk] OR Milk 200mL with 10 mL of *Ghee* (clarified butter) |
| 5th Month | *Ksheer sarpi* Milk 200 mL with 10 mL of Ghee twice a day |
| 6th Month | Medicated Ghee (Clarified butter processed with herbs) eg. *Phala Ghrita*<br>  |
| 7th Month | Medicated Ghee (Clarified butter processed with herbs) eg. *Phala Ghrita* |
| 8th Month | *Chaval* (*Shali* rice )/ *Daliya* (Crushed wheat prepared by using six times of milk) , *Yavagu* (Rice gruel) prepared with ghee and milk, *Kheer* - 100 mL in one meal |
| 9th Month | Cooked rice prepared with *Ghee* (Clarified butter), Meat soup prepared with *Ghee* (Clarified butter) |

## Pregnant Women should avoid following dietary habits

- *Fasting and overeating*
- *Frequent and excessive eating*
- *Excess intake of dry, heavy to digest, fermented, spicy or hot food*
- *Excessive intake of food of any one particular taste.*
- *Leftover foods, uncooked leafy vegetables, undercooked beans, food with preservatives and artificial flavors.*
- *Use of alcohol, smoking, narcotics, sedative and non-prescribed drugs*

Adoption of healthy life-style practices – *Yogasanas*, *Pranayam* (Controlled breathing exercise) and Meditation should be encouraged in pregnancy. *Yoga* can be helpful in maintaining normal health during pregnancy, reduction of maternal stress anxiety, reduction of physical ailments and good foetal outcomes. Meditation facilitates a reduction in maternal stress and thus ensuring healthy growth of foetus.

# Dietary Recommendations for Lactating Mother

The transformation of female, from a woman to a mother is the happiest lifetime event, but this happiness is gained only after undergoing tremendous physical exertion during labour. The women become extremely debilitated physically & mentally after the delivery & there are more incidences of backache, weakness etc. Lactation starts from this phase of *sutika*. Breast milk is the optimal food for almost all infants in the first year of life. In *Ayurveda stanya* (Breast milk) is formed from *aahar rasa* (digested food juice)

Therefore, to revert to the normal body tissues approximately to a pre-pregnant state and for successful lactation, apart from general dietary rules, lactating mother should follow certain specific dietary conducts during first 45 days after the delivery.

- Considering the strength and digestive power of *Sutika* (Recently delivered mother), she should take easy to digest, liquid diet like gruels (*Yavagu)* made up of Chaval (Rice)/*Yava* (Barley), *Daliya* (Crushed wheat), *Mudga yusha* (thick soup of Mung bean/green gram) with sufficient amount of Ghee/Oil during the first 7 days.
- Food of S*utika* shall be processed with *Deepaniya dravya* like *Jeera* (Cumin seeds), *Maricha* (Black peeper), *Shunthi* (Dry ginger) and *Pippali* (Long pepper).
- 8$^{th}$day onwards *Jangalmamsa rasa* (meat/chicken soup*)* if accustomed and normal diet can be practiced.

- For maintenance of mother's nutritional status and optimum lactation, traditional recipes (having galactogogue properties) can be used (*Methi Laddoo* or *Shunthi* (dry ginger) Laddoo.

- These *laddoo* can be prepared by using *Methi* (Fenugreek), *Shunthi* (Dry ginger), *Nariyal* (Dry coconut), *Ajwain* (Carom seeds), *Shatavari* (*Asparagus racemosus* Willd.), *Saunf* (Fennel seeds), *Gond* (Tragacanth or acacia gum), *Khas khas* (Poppy seeds), *Chandrashoor* (*Lepidium sativum* L.), *Shatawari* (*Asparagus racemosus* Willd.), *Vidari* (*Pueraria tuberosa* (Willd.) DC.), *Gud* (Jaggery) and mixture of various dry fruits

- Mother should drink Milk medicated by adding *Maricha* (Black pepper) and *Pippalimula* (Root of long pepper)(1-2 gm powder with 200 ml milk); or *Shatavari* (*Asparagus racemosus* Willd.) powder / granules (5-10 gm with 200 milk)

- Use of *Sahijan* (Drumstick leaves) and *Lashuna* (Garlic) in everyday dishes (smoothie, soup, vegetables, dosa)

- Use of *Methi* (Fenugreek) seed and leaves may be included in the diet of new mothers.

- Use of *Gud* (Jaggery)/ Palm Sugar/ *Gud Khanda* (Brown sugar)/*Desi khanda* in place of sugar.

- Fortification of *Aata* (Flour) with *Shatawari* (*Asparagus racemosus* Willd.) for making Roti/chapatti. (30 gm *Shatavari* powder for 1 kg aata)

- Avoid factors causing suppression of Breast Milk- like *Krodham* (Anger), *Shoka* (Grief), *Langhan* (Taking light diet), *Aayaasam* (Excessive physical exercise), *Ruksha-annapaanam* (Food devoid of oily substances) etc.

# Dietary Recommendations for children

Ayurveda emphasizes on nutrition of children for maintenance of health. It has classified children on the basis of diet into 3 categories viz. *Ksheerapa* (from birth to 1 year) who predominantly breastfeed, *Ksheerannada* (from age 1-2 year)- who take both breast milk and food and the *Annada* (above 2 years of age)- who take food similar to an adult. Ayurveda recommends for exclusive breastfeeding up to 6 months of age and advises for complimentary feeding, thereafter (after 6 months) in the form of *Annaprashan*/*Phalaprashana samskara* (first time food/fruit eating ceremony in children). Early initiation of breast feeding, exclusive breastfeeding, avoiding of the bottle feeding, hygiene and appropriate complementary feeding are important factors for the maintenance of the nutritional wellbeing of children.

## 0-6 Months Children:

- Exclusive Breast feeding up to the age of 6 months
- Mother should follow the dietary recommendation as described already, for optimum milk production.
- In any unavoidable circumstances or in the absence of Mother's Milk, goat milk or cow milk may be given in appropriate quantity, without dilution and with proper hygiene.
- Practice of *Abhyanga* with sesame/ coconut/ olive oil and *Suryadarshan* (exposure to Sun).

## 6 months- 2 years:

- Rapidly growing baby needs extra energy and calorific food and only breast milk can't suffice this need. Failure to which may lead to definite nutritional problems. Therefore-

- Breast milk should be continued as a main food along with complimentary food in the beginning.
- Minimum three complimentary foods along with Breast-feeding and five complimentary food in non-breastfeeding children should be given.
- *Phalaprashan* and *Annaprashan* ceremony should be done after completion of 6 months.
- After 6 months, easy to digest and nutrition rich *(Brimhana)* complimentary foods comprising of fruits, liquid, semisolid, and solid food should be given in sequential order by considering digestion (*Agnibala)*, demand, tolerance of the baby and teeth eruption.
- Include variety of food articles (diversified) in diet for complimentary feeding to improve micronutrients status.
- Various regional foods can be used as complimentary food such as *Ragi-halwa, Nachni halwa, Rajgira halwa /Laddu, Idli, Dosa, Ambali, Hurihittu, Payasam, Dhan ki Kheer, Mixed Millet* and *Drumstick Leaves Dosa, Mung (green gram) kheer, Khichadi* etc.

**2 -10 years:**

- After two years of age, baby should be given the well-cooked food prepared at home.
- Food should include different vegetables, milk, nuts and seeds, whole grains, lentils, beans and berries etc.
- Minimum 4 meals (2 main and 2 snacks on demand) should be given.

**11 -16 years:**

- Minimum 3 meals (Breakfast, Lunch and dinner) shall be given per day with a gap of at least two & half hours in each meal.
- Daily serving should include whole wheat bread/starches, fruits, vegetables, fats like ghee, protein from lentils or egg/fish/ meat, milk and dry fruits.

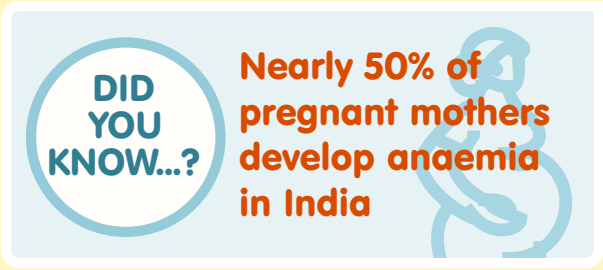
## Specific Advice



- Follow regular schedule for meals and snacks.
- If possible, mix 1/2-1 tsf Ghee (*ghrita*) in daily diet.
- Maintain proper hygiene at the culinary place.
- Inculcate the habit of eating mindfully in children (Avoid watching T.V. and Mobile while eating).
- Avoid/minimize use of processed/ packed/ junk/ fried food/ cold food items.
- Avoid use of carbonated drinks and switch to home prepared healthy, nutritious and fresh beverages from fruits and vegetables.

# Dietary and Ayush Advisory for Anaemia in pregnancy

Iron deficiency anaemia is the most prevalent and the most neglected nutrient deficiency in the world, particularly among pregnant women. During pregnancy, increased maternal iron is needed as a result of the demands of the growing foetus, placenta and expanded maternal blood volume. The developing foetus is entirely dependent on mother for nutritional requirements. All iron delivered to the baby comes from either maternal iron stores or absorption of iron from the maternal diet.




## Impact of Anaemia on Health Outcomes in pregnancy

- Increased risk of developing perinatal infection
- Pre-eclampsia
- Post-partum Haemorrhage (PPH)
- Puerperal sepsis
- Poor lactation
- Maternal deaths
- Intrauterine growth retardation
- Preterm Birth
- Low birth weight babies
- Stillbirth and Neonatal Death

## Major Causes of Anaemia in Pregnancy

- Insufficient quantity of iron-rich foods and “iron enhancers” in the diet.
- Low bioavailability of dietary iron due to gastrointestinal issues affecting absorption.
- Increased demand of iron during pregnancy.

## How to know?

- Pregnant women with hemoglobin (Hb) concentration less than 11g/dL.
- Symptoms like fatigue, general weakness, Headaches, loss of appetite, loss of hair, Breathlessness, Pedal Edema, Numbness or a cold feeling in hands and feet, Pale Skin/Lips/Nails etc.

## Management

Iron Deficiency Anaemia (IDA) is managed with the supplementation of external iron containing one or the other types of iron salts. However, it has been reported that the long-term treatment of IDA with these drugs is mostly associated with constipation, heart burn, nausea, gastric discomfort etc. Therefore, mild to moderate cases can be prevented and effectively managed with dietary modifications and Ayush medicines, as it is a common nutritional disorder.

## **Mild Anaemia** (Hb of 10—10.9 g/dl) (Definition by WHO)

Iron supplements are a part of routine antenatal care and management of mild anaemia includes ensuring the delivery of supplements in the advised dosage and correction of dietary factors. As dietary habits play a critical role in the development of iron deficiency and subsequent development of iron deficiency anaemia. Food based approaches to increase iron intake through dietary modification/ fortification / diversification and provision of hygienic environment are important sustainable strategies for preventing IDA in the general population. Management of anaemia should be based on the gestational age of woman and nutritional status.

High dietary diversity can lead to adequate nutrient intake and thus help in prevention of nutritional deficiency anaemia. Evidences also suggests that intake of diversified diets is a reliable measure to assess the micro- and macronutrient adequacy of intakes of women of reproductive ages.

### Dietary Modification

Follow 5 'Rights' of AYURPOSHAN i.e. the right Time, the right Quantity, the right Quality, the right Methods and the right Place.

### Food Fortification

- Include spices in small quantity like *Jeera* (Cumin seed), *Shunthi/aadrak* (Dry/Wet ginger), *Lashuna* (Garlic), *Elaichi* (Cardamom), *Ajwain* (Carom seeds), *Haldi* (Turmeric), *Dalchini*, (Cinnamon) *Marich* (Black pepper) etc. while preparing food.

- Drink milk processed with *Shatawari* (*Asparagus racemosus* Willd.), *Bala Beeja* (*Sida cordifolia* L.), *Vidari* (*Pueraria tuberosa* (Willd.) DC.) and *Munakka* (Raisins) .

- Use *Sahijan*/ *Shigru* (Drumstick) Leaves, Fruits, Pods (Vegetable/ Sambar/ Powder with milk) in diet.

*Sahijan*/*Shigru* (Drumstick) leaves contain fiber, fat, proteins and minerals like Ca, Mg, P, K, Cu, Fe, and S. Vitamins like Vitamin-A (Beta-carotene), vitamin B-choline, vitamin B1-thiamine, riboflavin, nicotinic acid and ascorbic acid are also present.

### Dietary Diversification

- Avoid eating the same dishes several times a week and experiment with new foods and flavours in limited quantity.

- Use of *Gud* (Jaggery)/ Palm Sugar/*Gud Khanda* (brown sugar)/*Desi Khanda* in place of sugar. Jaggery is generally called as "medicinal sugar" because of its use in Ayurveda as well as its comparison with honey. It is rich source of minerals like iron, calcium, phosphorous, Sodium; and it also contains all the vitamins.

- Prepare vegetables, grains, or food recipe of individual choice distinctly. *Bajra* (Pearl millet), *Mudga* (Mung bean/green gram), *Mashur* (*Lens culinaris* Medik.) can be included.

- Use Chutney made up of Dhaniya (Coriander leaves)/*Karhi patta* (*Murraya koenigii* (L.) Spreng.)/ *Narikel* (Coconut) /*Imli* (Tamarind)/ *Mirch* (Green chilli)/ *Lahsun* (Garlic) in daily diet.

- Use Traditional recipes intermittently- *Guda* (Jaggery) with *Chana* (Roasted chickpeas) /*Moongphali* (Peanut), powder of *Saunf* (Fennel) mixed with *Mishri* (Rock sugar) and water, *Sattu* (Flour of roasted chickpeas), Beetroot *Halva*, *Dhan ki Kheer*, Green Gram and Methi(Fenugreek Leaf )Chilla, Mixed Millet and Drum-stick Leaves Dosa, *Ambadi* (Sorrel leaves), *Ragi* (millet), *Hurihittu*, *Enduripitha*, *Bathua Parantha*, *Mulai Keerai masail* etc.

- Include variety of articles from maximum food groups (Cereals, Pulses, Fruits, Vegetables, Milk andMilk Products, Meat and Meat products) in the diet.

- Avoid Food Articles/ items Inhibiting Iron Absorption i.e. Tea and Coffee

- Avoid excessive intake of food having *Amla* (Sour), *Lavana* (Salt), *Katu* (Pungent) dominant taste.

- Food Articles/substances increasing Iron Absorption: Vitamin C rich fruits/vegetables/food article like- *Nimboo* (lemon), *Mosambi* (Sweet lemon), *Santara* (Oranges), *Sahijan* (Drumstick/Moringa) , *Takra* (Buttermilk) , *Amla* (Gooseberry)etc.

Instead of using routine 3-4 types of vegetables, try variety of vegetables in diet-

***Phala–Shaka Varga*:** *Lauki* (Bittlegourd) , *Kaddu* (Pumkin), *Karela* (Bitter gourd,) *Chichinda* (Snake gourd), *Tinda* (Indian squash), *Bhindi* (Ladyfinger), *Patola* (Pointed gourd), *Torai* (Ridge gourd), *Lal kaddu* (Red pumpkin), *Pakva kushmanda* (Petha/ Pumpkin Gourd), *Sahijan* (Drumstick), *Tamatar* (Tomato), *Jeevanti* (*Leptadenia reticulata* (Retz.) Wight & Arn.), Baigan/*Vartak* (Brinjal) etc.

**Mool - Kanda Varga:** Dry *mulaka* (Radish) and *Sneh siddha mulak* (Radish processsed), *Gajar* (Carrot), *Lashun* (Garlic), *Aadrak* (Ginger), Rataloo (Yam), beet root etc.

**Green Leafy vegetables:** *Palak* (Spinach), *Bathua* (Chenopodium), Methi (Fenugreek), Chaulai (Amaranth), *Sahjan* (Drumstick), Arbi ka Patta ( (Taro leaves), *Sunsuniya saag or sushni saag* (Water clover), *kulfa, ghol* or *luni saag* (Purslane), Ambadi (Sorrel Leaves), Punarnava (Pigweed) Tanduliyaka (amaranth) etc.

*Aangoor* (Grapes), *Anaar* (Pomegranate), *Kela* (Banana), *Nimbu* (Lime), *Santara* (Orange), *Mosambi* (Sweet lemon), *Aam* (Mango), *Jamun* (Indian blackberry) , *Amarood* (Guava), *Badara* (Berries), *Sitaphala* (Custard apple), *Kishmis* (Raisins), *Khazoor* (Dates), *Chuhara* (Dried dates), *Amla* (Gooseberries fresh and Dried) etc. ****Use only seasonal fruits***

Meat (Liver), Chicken, fish (Salmon) & Crabs. (for non-vegetarians) **** (Dry salted fish causes digestion problems hence better to avoid. Pork in excess should be avoided.)***

## **Moderate anaemia** (Hb of 7—9.9 g/dl)

❖ Dietary management as mentioned above

❖ **Ayush supplementation under supervision of AMO:**

If patient is already on iron supplements and has moderate anemia then dose, dosage form, duration, *anupana* etc. of the medicine should be assessed by Ayush Medical Officer for further management plan. If the patient is not taking any supplementation, then the following Ayush supplementation can be taken under the supervision of Ayush Medical Officer with suitable dose regimen.

- ***Agnidipan Medicines:*** *Trikatu Churna/ Guduchi Churna/ Dhanyaka Churna/ Shunthi Churna/ Jeerak Churna*

- ***Raktawardhak Ayush Medicines:*** *Dhatri lauha/ Punarnavadi Mandura/ Dadimadi Ghrita / AnnabhediChenduram/ Saptamrit lauha / Mandoor Vataka / Navayas lauha / Drakshavleh / Dadimavleha / Dhātrī avaleha*

**Severe anaemia (Hb of <7 g/dl):**
Refer pregnant mother to higher center

## Assessment of Hb (Haemoglobin) during pregnancy

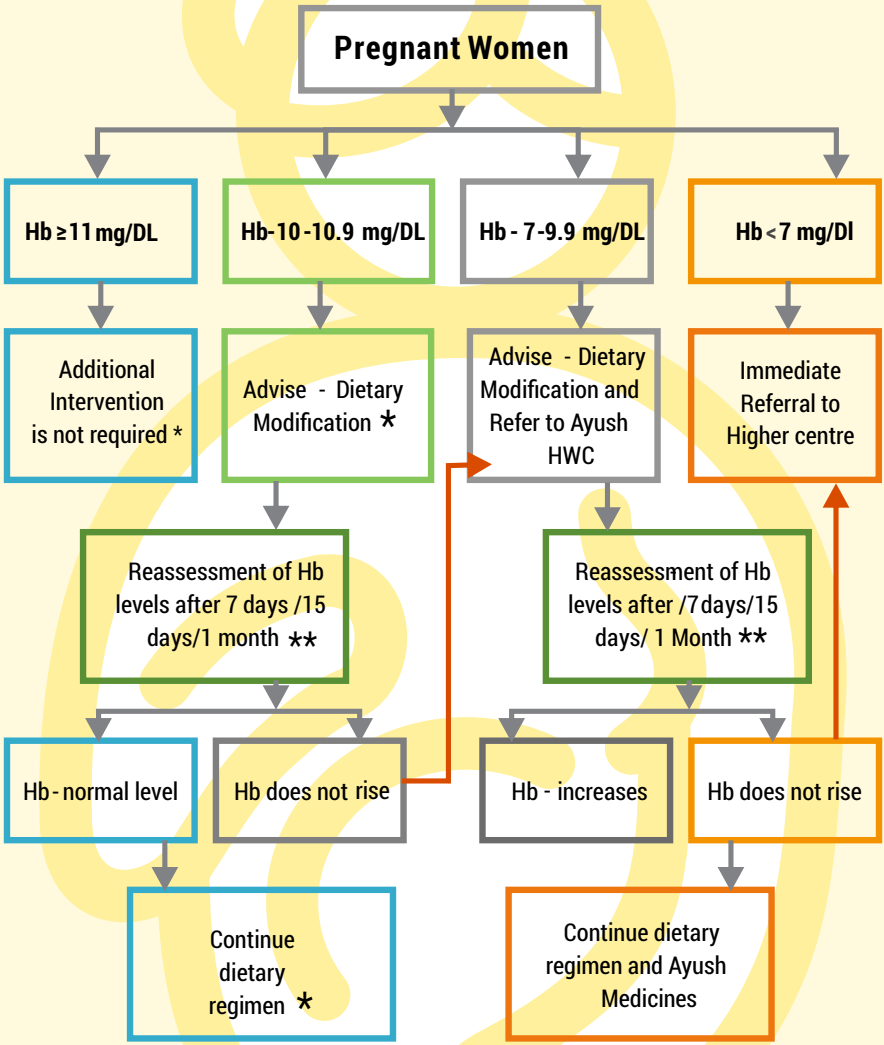
- **Reassessment of Hb- level:** Hb levels should preferably be reassessed **after 7 days, 15 days and 1 Month** (based on stage of pregnancy).

- After following Ayush dietary advisory, if Hb has come up to normal level; continue the dietary regimen & routine pregnancy care.

- If it does not rise in spite of the dietary modification, then start supplementation under supervision of AYUSH Medical Officer.

- If Hb does not rise in spite of the administration of Ayush medicine and dietary supplementation, refer the woman to the next higher health facility for further management.

# Referral Criterion Flow chart



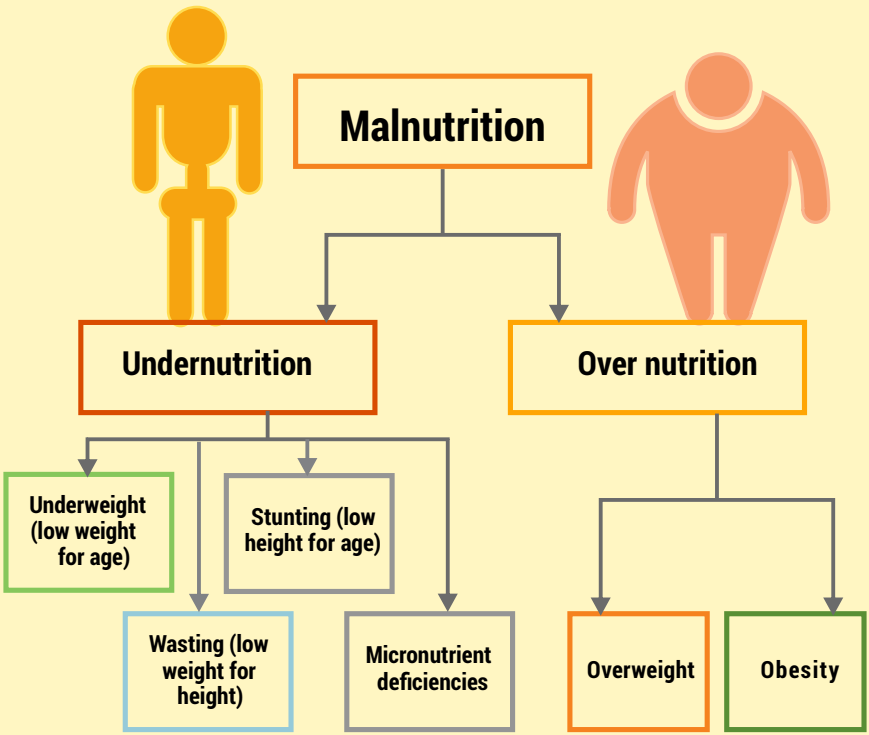

** Routine ante natal supplements should be continued.*

*** Period of reassessment may vary as per the gestational age of patient.*

# Dietary and Ayush Advisory for Malnourished Children

*'Good nutrition allows children to survive, grow, develop, learn, play, participate and contribute—while malnutrition robs children of their futures and leaves young lives hanging in the balance'*

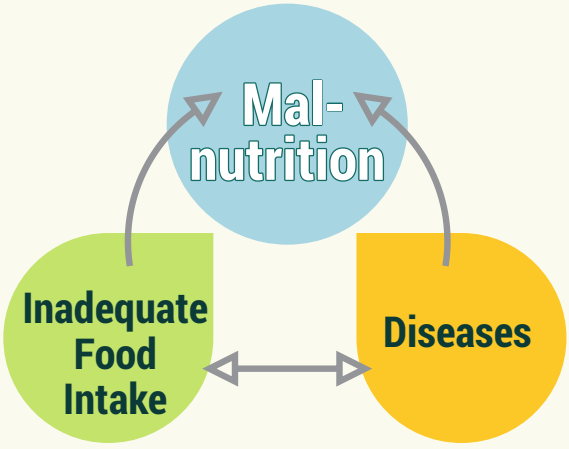
*Malnutrition is any deficiency, excess or imbalance in children's intake of energy and/or nutrients.*



## Who is at risk?

Infants, children, and adolescents are at particular risk of malnutrition. Optimizing nutrition early in life—including the 1000 days from conception to a child's second birthday—ensures the best possible start in life, with long-term benefits.

### Immediate Causes of Malnutrition




Malnutrition is caused by one or more of these factors. Apart from inadequate food intake, regular faulty dietary habits, intake of non-nutritious food items, unhygienic conditions, incorrect Infant & Young Children Feeding (IYCF) practices are some of the important preventable causes of malnutrition.

These factors are interdependent. For instance, a child with inadequate & faulty dietary intake is more susceptible to diseases, which in turn reduces appetite, inhibits the absorption of food nutrients, and competes for a child's energy.

## Impact of Malnutrition on Health

- Poor physical development
- Poor mental growth and impaired cognitive function
- Poor school performances,
- Weakening of the immune system and increased susceptibility to infections
- Ill health, and
- Prone to death due to respiratory infections and diarrhea

## Impact on Productivity

Malnutrition negatively influences human productivity- Most malnourished children attain low levels of education, affecting their ability and opportunities to get good jobs, thus lowering their earning potential. This contributes to poverty by impeding the ability of an individual to live a productive life.

## Common symptoms of Malnourished children

- Reduced Appetite or lack of interest in foods and drinks
- Not growing or putting on weight and height at the expected rate
- Low energy level/lethargy, tiring more easily than other children
- Changes in behavior, such as being unusually irritable, slow or anxious
- Poor concentration
- Getting ill often and taking a long time to recover

# Ayush Advisory for Preventing Childhood Malnutrition

- Under nutrition starts during intra-uterine and continues in later life. Conception to first two years of life (first 1000 days) is most important period to prevent the under nutrition in children.
- Pregnant mothers shall follow advisory as mentioned above to have adequate nutrition.
- Child should be given exclusive breastfeeding for six months and regular breastfeeding until the age of two years at least.
- In extreme condition and non-availability of Mother's Milk, Cow Milk and Goat Milk should be given without dilution in hygienic conditions.
- **Introduction of appropriate complimentary feeding at six months of age:**
  - After six months, the major cause for under nutrition is improper complimentary feeding & weaning practices. Complimentary foods can cover the nutrient needs in infants, only if it is rich in energy.
  - Initial introduction with liquid and semi-solid food recipes like-. Chawal ka mand (rice gruel), mudga (green gram) Yush, vegetable soup processed with cumin seeds/powder, Daliya, smashed- kela (banana)/aaloo (potato)/seb (apple), Ragi (Finger millet) and Kela (Banana) Smoothie etc. Adding ½-1 TSF ghee in the food will be beneficial.
  - After that, various regional, highly nutritious foods can be used as supplementary food during 6 months to 2 years: Ragi (finger millet)-halwa, Nachni (finger millet) halwa, Rajgira (Amaranth) halwa /Laddu, Idli/Dosa/Ambali (Sorrel leaves)/Ragi Hurihittu, Payasam, Dhan ki Kheer, Mixed Millet and Shahajan (Drum-stick) Leaves Dosa, Mung (green gram) kheer, Khichadi etc.

- Avoid harmful and inappropriate foods like- processed/packaged food items, carbonated soft drinks and switch to home prepared healthy, nutritious and fresh food and beverages from fruits and vegetables.

## Tips for improving digestion and assimilation of nutrients

**Fortification of Food with bio enhancer:** Various spices available in the kitchen like powder of *Pippali* (Long pepper), *Marich* (Black pepper), *Adrak* (Ginger), *Dhaniya* (Coriander, *Jeera* (Cumin seed) in small quantity (0.5-1 gm) can be mixed with *aata* or while preparing other recipes. *Trikatu Churna, Dadimashtak Churna, Hingwashtak Churna, Panchakol Churna* etc. (0.5-1 gm) can be used instead (any one product).

It will help to facilitate digestion of food and thereby increasing the absorption of essential nutrients through the intestines.

# Immunity and Malnutrition

- Immune dysfunction is both a cause and consequence of malnutrition.
- Defects in both the innate and adaptive arms of the immune system have been consistently demonstrated in undernourished children.
- The gut is the primary interface between diet and the immune system, and a range of postnatal cues from the microbiota, pathogens, and dietary components are required for healthy development of gut-associated lymphoid tissue (GALT). Therefore, appropriate dietary regimen and adequate nutritional intake, combined with the integration of different functional foods can be helpful for maintaining optimal levels of immune response / improving the various aspects of the immune system.
- For prevention and management of Malnutrition, immunity enhancer products of Ayush like *Chyavanprash Avaleha, Ashwgandhadi Leha, Indukantam Ghrita*, *Arvindasav* etc. can be taken with the advice of Ayush Physician.

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## Notes

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