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Ayurvedic Concept of Food and Nutrition

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Abstract: Ayurveda places special emphasis on Ahara (diet) and Anna (food) and believes that healthy nutrition nourishes the mind, body and soul. Ayurveda does not discriminate food to be good, or bad, instead it emphasizes various factors that influence food, such as its biological properties, origin, environmental factors, seasons, preparation, freshness, and provides a logical explanation of how to balance food according to one's dosha and physical needs.

अमन्त्रमक्षरं नास्ति नास्ति मूलमनीषधम्
अयोग्यः पुरुषो नास्ति योजकस्तत्र दुर्लभः

*There is no letter that is not a mantra, there is not a root that is not a food/medicine
There is not a man who is not useful. It is the coordinator of these elements who is a rare breed and is limited by his/her wisdom.
Materia Medica of Ayurveda*

Ayurvedic Nutrition

Nutrition plays a central role in Ayurvedic living. Ayurveda places special emphasis on "Ahara" (diet) and "Anna" (food) as a means to good life, health and wellness. Healthy and wholesome food nourishes the mind, body and soul. Ayurveda asserts that although the digestive capacity of each person may be different, the quality and appropriate quantity of food are necessary for a healthy life. Food taken in proper quantity provides strength, vigor, good complexion and nurtures the health of the tissues (1,2).

Ayurveda is a 6000-year-old health care system that asserts that science, philosophy and spirituality are necessary aspects for a healthy living. Ayurveda is considered not only a comprehensive medical system but also a way of life. The individual is inseparable from his or her surroundings (3-5) and is a "microcosm" within the "macrocosm." In other words, as a microcosm one is constantly under the influence of vast environmental transformations. Although these changes may not be inherently apparent to the naked eyes, these concepts are unique and establish the fact that individuals should be treated within the context of his/her surroundings. Similarly, in order to live healthy, one must live in harmony with his/her surroundings and formulate a diet that balances one's doshas (1).

It is difficult to understand Ayurvedic nutrition from the western point of view where quantity is determined by serving size/portion size or in caloric intake. In 1992 the U.S. Department of Agriculture released the national guide for maintaining good health in the form of a food pyramid. The nutritionists, doctors and other health care providers routinely used the guide across the nation. It was adapted on the basis of cardiovascular and cancer risk factors available at the time. The guide recommended the reduction of total fat intake and promoted 6-11 servings of complex carbohydrate including rice, pasta, vegetables, and fruits and two servings of meat or animal products. Over the years and several research findings later, it was concluded that the recommended food pyramid had greatly faltered in providing a basis for a balanced diet since obesity was on the rise (8).

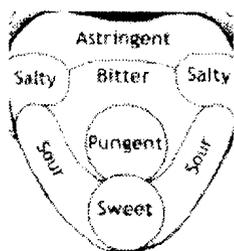
The USDA's Center for Nutrition Policy and Promotion has now reassessed the dietary guide in the hope that appropriate changes and inclusion of polyunsaturated fats and whole grains in required quantity would shift the graph. A new pyramid is now available to the public (from 2004) with new dietary requirements. Most of the dietary requirements are formulated on the basis of research data available on chronic diseases, cardiovascular and cancer risk factors at this time, using cholesterol ratios and triglyceride levels as indicators of wellness across the broader (8).

In contrast to western dietary understanding and the US guide to diet, Ayurveda states that a diet can be vegetarian (plant based) or non-vegetarian (animal based) and portion size should be customized for each individual according to one's own needs, body constitution (dosha) and *agnibal* (digestive power). Also, the quality and properties of food should be taken into consideration such as heavy, light and oily.

Foods like rice may be digested easily as opposed to pork meat that is heavy and oily. Thus the quality and quantity of food is often weighed on the basis of how effectively the food is digested. Ayurveda emphasizes that a diet must be properly selected and wisely formulated, not only according to the physical conditions of a person, but taking into consideration the body type (pita, kapha, or vata) and should compliment the seasonal and daily changes and other natural factors that surround an individual. According to Ayurveda the use of wholesome food promotes health, while unwholesome food manifests disease (1-10)

Due to innumerable varieties of food and food substances, food is characterized according to their action on the individual and is determined by their unique qualities: *ras* (taste), *virya* (active component or potency), *vipak* (post digestive effect) and *prabhav* (pharmacological effect). Hence, food is classified on the basis of its properties and its effect(s) on the digestion (1,2,11).

Since taste (Rasa) plays a major role in proper digestion, classification of food and food group are developed according to taste. The six tastes (rasa) of the food constitute: sweet (madhura), sour (amla), lavana (salty), pungent (tikta), bitter (katu) and astringent (kasaya). These six tastes also correspond to the six stages of digestive process (1,2).



Areas of six tastes

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Each taste plays an important role in the stimulation of the digestive and immune systems. These six tastes are received on the different anatomical locations on the tongue and correspond to specific digestive organs of metabolites.

The sense of sweet is perceived by the tip of the tongue and is related to the corresponding organs, thyroid glands and apical areas of lungs. Pungent relates to the stomach and head; bitter to the pancreas, liver and spleen; astringent to the colon; sour to the lungs; and salt to the kidneys

Tastes (Rasas): Each taste stimulated by the food contributes to the nourishment of the body when consumed in appropriate quantity. **Sweet** promotes life as a whole, provides overall strength, luster to the skin and is beneficial for the throat (Charak). However, excessive use will aggravate kapha and contribute to obesity, congestion and other diseases. **Sour** taste stimulates "agni" (proper digestive forces), provides energy, awakens the mind and stimulates salivation. Yet, excessive use will cause heartburn, indigestion, and water retention. **Salt** is heavy and oily and when consumed in moderation is antispasmodic, promotes energy and helps maintain water and electrolyte balance. However, when used in excess salt induces water retention, elevates blood pressure and induces vomit. Ayurveda recommends the use of rock salt in the diet due to its mineral content. **Pungent**, in moderation, improves digestion, absorption and allows cleansing of sinuses, aids in circulation, and helps in elimination. It acts as a blood thinner and contributes to the vitality and vigor of the body. Yet excessive use may cause sterility, fatigue and excessive thirst. **Bitter** foods, like turmeric, dandelion, aloe vera, fenugreek stimulate all other tastes. They act as antipyretic, tone the pancreas and reduce fat. Over consumption may cause dizziness. **Astringent** foods like unripe bananas, pomegranate, and chickpea aid in absorption and are binding. Excess use will induce griping, constipation and blood coagulation (4).

When different foods are taken in combination and their properties are not complimentary, indigestion, flatulence, and acidity can arise and toxins are formed in the body. Yet the same food when taken separately may be easily digested and may promote "agni." Ayurveda provides a guide on how to combine food for optimum nutrition and proper digestion. In addition, it recommends spices and herbs in cooking (Ayurvedic cooking) to help the food become more compatible for digestion. Thus, Ayurvedic cooking is a great science of properly combining foods and food substances to maintain optimal health (1,2,6,7,11).

Ayurvedic Diet: Ayurveda asserts that every root is a medicine so there is no good or bad food and provides a logical approach to designing balanced foods for optimal nutrition by formulating food groups that work in harmony, induce proper digestion and promote maximum absorption of essential nutrients. When food is similar to one's dosa it will aggravate the dosa. Therefore, one must select the proper food group to balance the dosa (3-5,11,12). Ayurveda recommends: (a) minimal consumption of raw food and vegetables, (b) knowledge of herbs and their effects prior to use, and (c) to avoid food combinations that are antagonistic such as bananas with milk (4).

Ayurveda believes that the plants and plant products that constitute our diet have a strong influence on the physical and mental states of the individual. In order to have proper digestion Ayurveda recommends not to consume too many raw foods and to avoid leftovers. Fresh, homemade food is recommended for proper nutritional assimilation. Spices are used to make the food compatible and balance its adverse actions. Eating warm food stimulates agni and digestive enzymes therefore warm food is recommended.

Time for intake of food is also taken into consideration such as vata people may go for smaller quantity and eat more frequently. Most suitable time to eat is dawn and dusk. Pitta individual may take his/her largest meal at noon (maximum of three times) while Kapha individuals may skip breakfast and may make the lunch as their largest meal. Age and gender are also factors to be considered. Elderly persons should have anti-vata diet, middle-aged person must comply with anti-pitta diet, and children should be given anti-kapha diet. Similarly, men may consider more anti-pitta diet as opposed to women favoring more anti-kapha diet.

A relaxed and calm mind is recommended to have optimal digestion. It is recommended not to eat with overpowering emotions such as stress, anger and grief etc. as these factors produce irregular and anomalous digestive process and have negative impact on the mind, the center for all sensory control and perceptions.

The Role of Spices in Ayurvedic Diet: Herbs and spices play an important role in ayurvedic nutrition, for they are used to bring humoral balance in the food. For example, ginger neutralizes the heavy quality of the food thus adding ginger will convert the property of heavy food into a lighter state. Similarly, when combined with different food agents it will change its mode of action such as ginger when taken with rock salt will reduce vayu/vata symptoms, with rock candy it will reduce pitta and when used with honey it will reduce kapha. With its versatile qualities ginger is used for treating indigestion, flatulence, colic, vomit, stomach

spasm, cold, cough and asthma. In addition to their medicinal qualities herbs and spices enhance the taste and flavor of the food and aids digestive secretions (11-12). Herbs and spices also provide mineral and vitamin supplements. Five of the commonly used spices are described below.

Common Name Botanical name	Sanskrit	Properties	Qualities	Properties
Cumin/ <i>Cuminum cyminum</i>	Jira	bitter-pungent- astringent	P + VK ⁻	Promotes digestion and relieves diarrhea
Turmeric/ <i>Curcuma longa</i>	Haldi/harida	bitter-pungent- astringent	V-P-K- VP+ K-	Promotes digestion, Anti-inflammatory
Ginger/ <i>Zingiber officinalis</i>	Adrakh	pungent-sweet-sweet	VK ⁻ P ⁺	Stimulant, carminative, decongestant, nervine, analgesic, anti-emetic
Black pepper/ <i>Piper nigrum</i>	Kali Mirch	Pungent-hot-pungent	VK- P+	Stimulant, decongestant, expectorant, digests fat
Coriander/ <i>Coriander sativa</i>	Dhania	Sweet-astringent- sweet	V ⁻ P ⁻ K ⁻	Balances vitiated pitta

Influence of food over mind and emotions (see Hunger and Nutrition): Ayurveda asserts that the mind is directly influenced by the quality of food eaten, food preparation, appearance, aroma and freshness of the food. These factors influence all the five senses and regulate proper digestion. Based on above basic principles, Ayurveda promotes selection of fresh food, preparation of food by combining compatible foods and use of herbs and spices to enhance flavor and taste of the food. It advocates that the quality of the food also regulates emotion, mental agility and mental vigor. Ayurveda has classified the food category in three basic groups:

Satva or Light food: such as fresh vegetables, rice, milk, butter, honey, fruits, nuts when eaten in right quantity will balance all three doshas, bring mental harmony and evoke conscious awareness.

Rajas or Rich food: such as garlic, coffee, and wine, fried food, too spicy or too hot will stimulate fantasy, jealousy, and ego. Although these emotions may appear as negative aspects, some of these emotions are needed to lead a normal life. Rajasic food should be included in the diet with modesty.

Tamas or Dull and sluggish: food list contain frozen food, certain root vegetables, peanut, left- over and meats that may need more energy to digest. Such food may enhance emotions like ignorance, greed and laziness. This food category must be included in the diet with caution.

Food Source: In addition to basic qualities of the food, origin and source of the food should also be taken into consideration. Milk in general is a *Satvic* food and can come from various sources such as human, cow, goat, sheep, buffalo, camel and horse and each will have its own property. The properties of milk coming from different sources will influence people differently according to their tridoshas. Human milk promotes longevity and nourishment

Cow milk is sweet, cold, soft, unctuous, viscous, smooth, slimy, heavy, dull and clear. It is wholesome, rejuvenating and strength promoting. It promotes intellect longevity and virility (1). Thus cow milk is nourishing, healing, remedial and is used as *Rasayana*. Warm milk of the cow immediately after milking (*dharasna*) promotes strength. It is like ambrosia and alleviates all three doshas and stimulates digestion. However, cold milk (*dhara sita*) aggravates all three doshas. Thus milk should be taken warm.

Colostrum: Cow milk immediately after delivery is called *Piyusa* (colostrum) is sweet-cooling-sweet (1). Colostrum is rich in lactalbumin, protein, mainly immunoglobulins, light, and easy to digest, easy to absorb and quick to transform into "ojas tejas and prana" (immune booster, provides energy and helps in digestive metabolic process). It is secreted before the onset of lactation so it is low in casein and is a mild laxative

Yogurt: yogurt (*dadhi*) prepared from cow's milk is an excellent promoter of strength. It is sweet in *vipak*, is an excellent appetizer, digestive and nourishing and it alleviates *Vata*. The first stage of *dadhi* is called *manda* (has no manifested taste). At its second stage *dadhi* is sweet and is called *svadu* and obstructs the channels, reduces *medas* (fat), kapha and *vata*. The third stage of *dadhi* is sweet, sour and astringent and is called *Svadvamla*. At its fourth stage *dadhi* is called *amlaki*. It stimulates digestion and aggravates blood pitta and kapha. At fifth stage, the *dadhi* becomes exceedingly sour and is called *atiamlia*. It stimulates digestion

Goat milk is astringent, sweet, cooling and light it cures *atisara* (diarrhea), *ksaya* (constipation) *jvara* (fever) and could be taken under all disease conditions. Sheep milk is sweet, unctuous, heavy and hot. It alleviates pitta and kapha. Buffalo milk is sweet, heavy and *abhisyandi* (obstructs channels) and suppresses digestion but is good for insomnia and people with strong digestive power (1).

Incompatible food and diet: Ayurveda recommends that diets, which aggravate dosha, and are antagonistic in respect to

season, place, time, and combination, are harmful and should be avoided. Such as rough and cold food in the winter is antagonistic in terms of time/season. Honey and ghee in equal quantity is antagonistic in dosage and milk with melon is a bad combination of food. Drinking too hot or too cold is not favorable for the digestive system and eating too many nuts in summer aggravates pitta (1,2,12,13).

Hunger and Nutrition: Modern science supports Ayurvedic principles that there is a close connection between food and mind as hunger (feeding) and satiety both are regulated by the hypothalamus in the brain. Stimulation of the lateral part of the hypothalamus excites the emotional drive to seek out food. Over stimulation may cause hyperphagia (excessive eating). Similarly, the satiety center of the brain located in the ventro-medial nuclei of the hypothalamus may cause aphagia (refusal to eat) upon stimulation. Control of the appetite is governed by amygdala of the brain and is closely connected with the sense of smell and the limbic system. According to Ayurvedic principles there is a close connection between smell and hunger. Taste, salivation, chewing, and swallowing all influence hunger and satiety and aid in digestion.

Activities of the feeding center are regulated by nutritional need such as low blood glucose level. However, feeling of hunger when the stomach is empty is due to the stimulation of the Vagus nerve, which causes stomach to contract, referred to as hunger "pains", is regulated by the blood glucose level, amino acids, and fatty acid metabolism. Bypassing any of these regulations may lead to digestive problems. Ayurveda recommends eating only when one is hungry and only one-third capacity of one's stomach, so that body is at optimal condition for proper digestion.

As body temperature, feeding and emotions are regulated by the limbic system, there is a close relationship amongst these physiological functions. When the food intake increases, the metabolic rate becomes faster and the production of heat is intensified. In order to maintain a physiological balance, Ayurveda asserts not to consume too hot or too cold food and to restrict other activities during food intake, including too much talking. Additionally, since emotions are processed by the limbic system, Ayurveda recommends maintaining a state of calm while eating to maximize the digestive process and recommends to avoid eating when emotions such as anger, anxiety, worry or grief sets in.

Thirst and water intake: Water intake is regulated by the neurons in the hypothalamus in the thirst center. Ayurveda describes eight groups of water depending on its source and views it as a necessary part of nutrition for life. As water is considered to be essential for sustaining life, water is never prohibited under any circumstances. Warm water is light, digestive, stimulating and alleviates all *doshas*. It is good for *kapha dosha*, *asthma*, *kasa* (Bronchitis), *Jvara* (fever). Water taken before eating induces *kapha dosha* and suppresses the power of digestion. Cold water takes more time to be digested and is recommended only during *murcha* (fainting) vitiation of *Pitta*, *usma* (excessive heat), *madatyaya* (alcohol consumption), *bramara* (giddiness), physical fatigue and vomiting. Cold water should not be used in *pratisyaya* (cold), flatulence, *aruchi* (anorexia), hiccups and immediately after oleation therapy.

During the process of eating, water taken in small quantity stimulates digestion, and when taken after meal causes *sthaulya* (obesity). Water taken in excess fetters digestion and dilutes nutrients. Therefore frequent intake of water in small quantities is recommended. During meals only one-third capacity of stomach should be filled with water.

The consumed food is digested by "jathar agni" (gastric fire). The nutrients ingested from the food undergo the process of absorption, assimilation and then are finally transformed into energy or consciousness. According to Ayurveda, *agni*, the fire principle of the body governs this process. The vital breath (Prana), positive immune system (Ojus) and the cellular intelligence (Tejas) are all expressions of nutrition via the means of Agni (2).

The end product of food, after digestion, runs through the circulatory system and bathes (irrigates) the tissues in the form of ultimate nutrients. Water plays a critical role in the trafficking of nutrient. These nutrients are selected and transported to the tissues and other specific places in the body, which are then transformed into energy.

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References:

1. Charak. Charak Samhita (700BC), Sharma, PV. ed. and English vol 1-4. Chaukhamba Orientalia, Varanasi, India. 1981-1985
2. Lad VD: Book of ayurveda. Fundamental Principles of Ayurveda, NM. 2002
3. Sharma J, Guha A: Sankhya: The philosophy that Shaped the Tenets of Ayurveda. J Elements: Ayurveda & Health. vol 3 (3)4-5.2005
4. Sharma, HN: the Concept of Consciousness in Vedas. J Elements: Ayurveda and Health. vol 3 (3) 4-5.2005
5. Radhakrishnan. S: Indian philosophy, vol 1, Oxford University Press, London. 1999.
6. Lad VD: Ayurveda: The science of self-healing. Lotus Light. Twin Lakes, WI. 1984
7. Svoboda RE: Ayurveda: Life, health and longevity. Penguin Books, New Delhi, India. 1992.
8. Willett, WC, Stampfer MJ: Rebuilding the food pyramid. Scientific American, 64-71. January 2003.
9. Gerson S: Ayurvedic medicine: Alternative Therapies. 7(2), 79-86. 2001.30:155-17. 2002.