

DIETETICS IN AYURVEDA-THE FORGOTTEN SCIENCE

Dua Pradeep^{1*}, Dua Pamila²

¹Research Officer-Central Council for Research in Ayurvedic Sciences (CCRAS), New Delhi, India

²Research Associate, Department of Pharmacology, All India Institute of Medical Sciences, New Delhi, India

Received on: 12/06/2011 Revised on: 25/07/2011 Accepted on: 08/08/2011

ABSTRACT

Ayurveda, the world's most comprehensive, personalized, holistic and sustainable health system based on sound philosophical and scientific principles, is now poised to regain the global leadership it lost in the 19th century. The science of Ayurveda is based on sound principles of its philosophy and not on mysticism, magic and anecdotes. Ayurveda is based on its unique principles of health and disease. The theories of Ayurveda were established by many ancient sages after rigorous testing in several ways and proving the same with reasoning.

According to Ayurveda, Ahara i.e. diet is the best preventive medicine and is solely responsible for health and illness, sorrow and happiness. Although, specific drugs are required for management of specific diseases, Ahara is best of all the medicines.

The need of the hour is to explore the potential of the science of dietetics in Ayurveda and find ways and means to adopt the recommendations of our ancient sages to achieve the ever cherished target of 'Health for all'.

KEYWORDS: Ayurveda, Ahara, Agni, Tridosha, Dhatu, Mala, Ritucharya, Sapta Aahara Vidhi Visheshaayatana.

*Corresponding Author

Dr. Pradeep Dua, {M.D. (Ay.); P.G.D.H.M.; P.G.D.I.P.R. Law; P.G.D.P.R.A.} Research Officer-Central Council for Research in Ayurvedic Sciences (CCRAS), Department of AYUSH, Ministry of Health & Family Welfare, Government of India, New Delhi, Email: duadrpradeep@gmail.com

INTRODUCTION

Ayurveda literally means "the knowledge of life". In Sanskrit, the word Ayurveda consists of the words āyu, meaning "life" and veda, meaning "knowledge" or "science"¹. Ayurveda considers health of an individual as dynamic integration of environment, body, mind and spirit. Ayurveda lays great emphasis on preservation and promotion of health and prevention of the occurrence of disease through natural means.

CONCEPT OF HEALTH IN AYURVEDA

Ayurveda defines health as balance of the three doshas (biological humors), the agni (digestion and metabolism), the dhatus (tissues) and the malas (excretion), as well as the sensorial, mental, emotional and spiritual well being (prasanna). Thus Ayurveda presents the most complete definition of health which is in coherence to that of World Health Organization which defines health as "a state of physical, mental, social and spiritual well being and not merely an absence of disease or infirmity".

There are two main objectives of Ayurveda i.e. maintenance of the health of a healthy person and restoration of health in the ailing mankind.

The treatment in Ayurveda system is holistic and individualized having two components i.e., preventive and curative². The preventive aspect of Ayurveda is called 'Swasthavritta' and includes personnel hygiene, regular daily & seasonal regime and appropriate social behavior. The curative treatment consists of three major constituents, ahara (diet), vihara (lifestyle) and oushadha (medication). Ideal treatment according to Ayurveda is one, which cures the disease without causing adverse effect. Three classical therapeutic streams advocated by Ayurveda are (1) therapies with inexplicable mode of action (daivavyapasraya chikitsa), (2) rationale treatment (yukti vyapasraya chikitsa) and (3) preventive and remedial measures to psychic disorders (satwavajaya chikitsa)³. The rational ayurveda treatment is carried out in four parts. They are (1) dosha pacifying therapy (samsamana), and (2) bio-cleansing therapy (samsodhana

or panchakarma) (3) avoiding causative factors (nidana parivarjana) and (4) dietetics (pathya vyavastha).

AYURVEDIC PHILOSOPHY

The Universe, according to Ayurveda is composed of five basic elements - Pancha Mahabhoota viz. space (akash), air (vayu), fire (agni), water (jala) and earth (prithvi). As the human body is similarly constituted, there is a fundamental similarity between universe and man. A healthy balance between the microcosm (human being) and the macrocosm (universe) is the basis of health. Ayurveda is based on the theory of three humours (tridosha) i.e. vata, pitta and kapha, seven body tissues (saptadhatu) i.e., fluid components of the body (rasa), blood (rakta), muscle tissue (mamsa), adipose tissue (medas), bone tissue (asthi), bone marrow (majja) and reproductive elements (shukra) and three bio-wastes (trimala) i.e. urine (mutra), faeces (pureesha) and sweat (sweda). The essence of saptadhatu called ojas is responsible for the immunity and strength of the individual.

Ayurveda emphasizes that psychosomatic constitution (Prakriti), which is peculiar to every individual, is responsible for the health or disease pattern. Human mind has three components (triguna) i.e. sattva (pure state of mind), raja (passion/ desire) and tama (inertia/ ignorance), which interact with the biological components vata, pitta & kapha and decides the psychosomatic constitution of an individual (prakriti)⁴.

Concept of Tridosha

In Ayurvedic philosophy, the five elements combine in pairs to form three dynamic forces or interactions called dosha. The doshas are constantly moving in dynamic balance, one with the others. Dosha are required for the life to happen. In Ayurveda, doshas are also known as the governing principles as every living thing in nature is characterized by the doshas. The three active doshas are called vata, pitta and kapha⁵.

- Vata / Vayu- literally mean wind, to move, flow, direct the processes of, or command. Vata enables the other two doshas to be expressive. It governs all the movements in the body including nerve impulses and also feelings and emotions. The actions of Vata are mainly drying, cooling, bringing lightness, agitating and moving.
- Pitta- represents transformation. It governs digestion, absorption, assimilation, nutrition, metabolism, body temperature, skin coloration, the luster of the eyes, intelligence, and understanding. Psychologically, pitta arouses anger, hate, and jealousy.

- Kapha- cements the elements in the body, providing the material for physical structure. This dosha maintains body resistance. Kapha lubricates the joints; provides moisture to the skin; helps to heal wounds; fills the spaces in the body; gives biological strength, vigor and stability; supports memory retention; gives energy to the heart and lungs, and maintains immunity. Psychologically, kapha is responsible for the emotions of attachment, greed, and long-standing envy. It is also expressed in tendencies toward calmness, forgiveness, and love.

Concept of Ritucharya

According to Ayurveda the constitution or dosha of the body and the seasons are intimately related. Our health is affected by the qualities of the climate we live in; our outer environment influences our inner world. For example, when the air is damp, cold and wet it increases these qualities in the body. Hence there is an increase in mucous, catarrh and colds in winter. Ritucharya is the observance of diet and regimen according to the seasonal changes⁶. Each year consists of six ritu or seasons. Each ritu (season) comprises two masa or months and three such ritu (season) constitute one kala. Hence adana and visarga kala each consist of six months and three ritu (**Table-1**). Ayurveda recommends specific Diet and lifestyle for each season⁷. (**Table-2**).

Concept of Ritusandhi

Sandhi means conjunction. Ritu sandhi refers to the transitional period between seasons and is the period of the last 7 days of the present ritu and the first 7 days of the subsequent ritu. For instance, it is vasanta ritu during vaishakha month, after which it will be grishma ritu during jeshta month. So ritu sandhi will be the last 7 days of vaishakha and the first 7 days of jeshta. During ritu sandhi the diet and regimen that is being followed should be stopped gradually and that of the subsequent ritu be followed.

Concept of Agni

Agni is symbolic to the metabolic fire or the digestive power and it occurs in four different states: samagni (normal), Vishamagni (abnormal), Tikshanagni (increased) and Mandagni (decreased). Jatharagni, dhatvagni and bhutagni are responsible for metabolism at different levels. The jatharagni (digestive juices and enzymes) is considered as the master agni and is claimed to govern the function of all other agni besides its own function. It also stimulates the enzymes and hormones which participate in the tissue metabolism (dhatvagni). If diminished it leads to indigestion of food (Ajirna) and formation of ama-anna (improperly digested food) and

ama-rasa (a product of improperly digested food) which acts as autotoxin. The disturbance in the agni at different levels (jatharagni, dhatvagni and bhutagni) impairs the function of the body at those levels, and also leads to the development of abnormal byproducts (ama) of systemic nature. This systemic ama state gives rise to different kinds of systemic diseases. Hence preservation and promotion of agni is the first and foremost step to be taken in every therapeutic endeavor. According to Ayurveda, Mandagni i.e. digestive insufficiency is the root cause of all diseases 'rogah sarve api mandeagnou'⁸. All types of food possess specific Rasa-taste, Guna-characteristic, Virya-potency and Vipaka-post digestion effect. Some food stuffs also act by their specific Prabhava-an unexplained effect on the body. The fate of food depends upon the state of Agni-digestive power inside our body.

Concept of Ahara

According to Ayurveda, Ahara i.e. diet is the best preventive medicine and is solely responsible for health and illness, sorrow and happiness. Although, specific drugs are required for management of specific diseases, Ahara is best of all the medicines. No medicine can perform well unless it is accompanied by proper food.

The food habit that promotes health is called pathya (wholesome diet) whereas; the one which is not congenial to the body is called as Apathya (unwholesome diet). The concept of shadrasa (six tastes) is a central point in Ayurvedic cuisine. These six tastes—madhura (sweet), amla (sour), lavana (salty), tikta (pungent), katu (bitter) and kashaya (astringent)—should be present in balanced proportions.

THE SCIENCE OF DIETETICS IN AYURVEDA

Ayurveda, lays immense emphasis on the type of food. Aahara (Food / Diet), Nidra (Sleep / Rest) and Brahmcharya (ethical and controlled indulgence into sexual activities with your partner)-referred to as 'three upastambhas' which form the three pillars for the healthy sustenance of human body. Ayurveda offers some basic dietary guidelines that include choosing appropriate food, combinations of food, cooking methods, storage, eating atmosphere, hygiene and etiquettes⁹.

Wrong Eating Habits

- Overeating
- Eating hurriedly
- Emotional eating
- Eating food one cannot digest
- Eating soon after a meal
- Eating when constipated
- Eating at the wrong time of day
- Eating incompatible food combinations
- Eating when not hungry
- Drinking cold or chilled water, especially during a meal
- Too much water or no water at all during a meal
- Eating too much heavy or too little light food
- Preserved and stale foods
- Too spicy, sour, salty food

Adequate emphasis has been laid in the classics of Ayurveda regarding the right way to eating food¹⁰. Food consumed in the righteous manner serves as nectar to rejuvenate the body and maintaining health.

Classical Ayurvedic Way of Eating Food

- At right time
- As per suitability
- According to ones prakruti
- Pure and hygienic
- Healthy food
- A bit oily
- Warm
- Light / easily digestible
- With full concentration in food
- Containing all six rasas
- Neither very fast-nor very slow
- After taking bath
- Only when you feel hungry
- Preferably sitting alone
- After offering prayers
- After your guests, elders and youngers have taken food
- After you have offered a part of food to birds/animals
- Without disgracing the food
- Silently

Every food is not suitable for consumption. All unhygienic and unwholesome food is to be discarded¹¹. Consumption of unholly food is the cause of disease.

Food That Needs To Be Discarded

- Containing hair
- Containing straws
- Containing fly /insect/ mosquito etc
- Food which has been re-heated

- Unhealthy / less nutritive
- Very hot
- Very hot in potency
- Containing a lot of salt

One should be able to understand the right quantity of food required. Ayurveda proposes to divide the stomach into four hypothetical quadrants. It is recommended that one should fill two quadrants with solid food, one quadrant with liquids and leave the remaining one quadrant to facilitate the proper mixing of food with digestive juices and circulation of air¹².

It is not only the way of cooking and the quality of food that is important. The manner in which the food is served plays an important role in adding to its food value¹³.

Ayurvedic Etiquettes of Serving the Food

- Ghee and oily foods—in utensils made up of steel / iron
- Liquids, meat—in utensils made up of silver
- Fruits and other eatables—on leaves of banana, palash, etc.
- Dry food and curd--- in utensils made up of gold
- Butter milk--- in utensils made up of clay
- Water (cooled after boiling)--- in utensils made up of copper
- Keep the soup, rice, pulse, curd, pickle, etc--- In front
- Keep the dry foods like wafers fruits and other edibles - --in the right side
- Juice, water, milk, buttermilk, and other liquids---in the left side

Food articles consumed in proper sequence with respect to their specific quality help in digestion and assimilation¹⁴.

Ayurvedic Sequence of Eating Food

- 1st liquid food / dry food and guru (heavy), madhura (sweet) and snigdha (ghee containing foods)
- 2nd amla (sour) and Lavana (salty) food
- 3rd Rooksha (without oil food), katu (bitter), tikta (pungent), kashaya (astringent) food.

If the digestive fire is weak, one should have hot semi solid / liquid food like soups. After having food one should take rest for at least 1 muhurta i.e. 48 minutes. This promotes digestion by augmenting the digestive fire¹⁵.

According to Ayurveda, Amalki (*Phyllanthus officinalis*) is recommended for consumption before/during/after the meals---anytime. It promotes appetite, aids in digestion and alleviates constipation. It can be consumed raw (up to three fruits a day), in the form of pickle / chutney (sauce) / cooked with vegetable or meat¹⁶.

Ayurveda lays emphasis on Pathya-wholesome diet and Apathya-unwholesome diet. Consumption of Apathya may lead to indigestion, fermentation, putrefaction, gas formation, and skin problems.

According to Ayurveda, there is some combination of food called **Viruddha Ahara** (Incompatible Foods) which should be avoided in all conditions. If viruddha ahara is taken, toxins accumulate in body resulting in several diseases¹⁷. For example:—

- Combination of milk with - fish, sour fruits especially banana (if sour), mango (if sour) , Radish , garlic, jackfruit, drumstick.
- Radish with - milk, horse gram soup, butter.
- banana fruit with - curd, butter milk
- Honey with- hot food or liquids, equal quantity of ghee, lotus stem.
- Hot and cold items together.
- Water after fried items.
- Eating hot curd & honey.

Ayurveda emphasizes on a unique concept of **Sapta Ahara Vidhi Visheshaayatana** (Seven factors that influence food quality)¹⁸. These factors include:

1. Svabhava-one should take the food keeping in view the guru (heavy)-laghu (light) / sheeta (cold potency)-ushna (hot potency)/ snigdha (unctuous)-ruksha (dry) characteristics of the food stuff. e.g. rice, moong (a kind of pulse), etc is laghu by nature whereas, milk, urad (black gram) dal, etc is guru by nature.
2. Samyoga-sometimes the action of a combination of diets is different from the action / effect of the individual components. e. g. honey and ghee; fish and milk---individually they are beneficial but together they are toxic for the body.
3. Samskara-it refers to alteration / modification in the qualities of the food stuff by the effect of cooking, specific utensil, condiments, spices, etc. e.g. adding black pepper to curd makes it less abhishyandi (the one which blocks micro circulation).
4. Maatra-refers to the quantity of food to be taken. It is usually advised to eat up to 3 / 4th of the need.
5. Desha-The effect of food on the body depends upon the area/location from which the food has been collected and the geographical origin of the consumer.
6. Kaala-it refers to time of the year, time of the day, stage of the disease, age of the consumer and the stage of digestion / indigestion of the previously consumed food. Right time to have food is when there is no bloating of the abdomen, urine and stool are passing normally, there is no sour eructation, there is feeling of lightness in the body especially in the region of chest

and abdomen, there is no feeling of stiffness and there is feeling of hunger.

7. Upyoga Vyavastha-rules for taking food—

- One should wash hands and feet (preferably take bath) before taking food
- One should eat only hygienic food
- One should pray before starting eating the food
- One should accept the food happily and should not crib even if the food is not as per taste
- One should not eat the re-heated food
- One should not consume cold food, very hot food or burnt food
- One should not eat in very early hours of the morning or very late hours in the evening
- One should not consume food that has been kept uncovered
- One should not consume food that is kept in a broken / unhygienic plate/pot
- One should preferably face east while taking food
- One should preferably sit on floor with legs crossed to have food
- One should take freshly cooked food with meat and chutney being exceptions.
- Best type of food is the one that is snigdha (contains ghee), laghu (light and easy to digest) and ushna (reasonably hot). This type of food increases the digestive fire, helps in cleansing of the bowel, nourishes the body tissues and gets easily digested. Such food arouses interest in the food.
- One should neither eat too slowly nor too fast.
- One should avoid talking while having food
- While having food one should concentrate on it and be in happy mood.

CONCLUSION

The need of the hour is to join hands and work in collaboration with the experts of other sciences to unravel the science behind the Ayurvedic principles of dietetics which have stood the test of time. A thorough understanding of these fundamentals will help in reducing the morbidity due to lifestyle disorders and

achieving the noble goal of maintaining the health of the healthy.

REFERENCES

1. Agnivesa (1000 BC): Caraka Samhita, Sutra sthana, 30/23: English Translation by Das, Bhagwan and Sharma, R.K., Chaukhambha Publications, Varanasi.
2. Agnivesa (1000 BC): Caraka Samhita, Sutra sthana, 30/23: English Translation by Das, Bhagwan and Sharma, R.K., Chaukhambha Publications, Varanasi.
3. Agnivesa (1000 BC): Caraka Samhita, Sutra sthana, 11/54: English Translation by Das, Bhagwan and Sharma, R.K., Chaukhambha Publications, Varanasi.
4. Singh R. H., The Holistic Principles of Ayurvedic medicine. 1998, 1st edition, Chaukhamba Surbharti Prakashan, Varanasi., pg. 19.
5. Singh R. H., The Holistic Principles of Ayurvedic medicine. 1998, 1st edition, Chaukhamba Surbharti Prakashan, Varanasi., pg. 17.
6. Agnivesa (1000 BC): Caraka Samhita, Sutra sthana, 6: English Translation by Das, Bhagwan and Sharma, R.K., Chaukhambha Publications, Varanasi.
7. Caraka Samhita, Sutra sthana 6 / 9-45, Chaukhambha Publications, Varanasi.
8. Singh R. H., The Holistic Principles of Ayurvedic medicine. 1998, 1st edition, Chaukhamba Surbharti Prakashan, Varanasi., pg. 27- 30.
9. Agnivesa (1000 BC): Caraka Samhita, Sutra sthana, 5 / 3 -13: English Translation by Das, Bhagwan and Sharma, R.K., Chaukhambha Publications, Varanasi.
10. Ashtanga Hrudya, Sutra sthana, 8 / 35 - 38, Chaukhambha Samskrit Pratishthan, Varanasi.
11. Ashtanga Hrudya, Sutra sthana, 8 / 39, Chaukhambha Samskrit Pratishthan, Varanasi.
12. Ashtanga Hrudya, Sutra sthana, 8 / 46, Chaukhambha Samskrit Pratishthan, Varanasi.
13. Sushruta Samhita, Sutra sthana, 46 / 454 -464: by Kaviraj Ambikadatta Shastri, Chaukhambha Samskrit Pratishthan, Varanasi.
14. Sushruta Samhita, Sutra sthana, 46 /466: by Kaviraj Ambikadatta Shastri, Chaukhambha Samskrit Pratishthan, Varanasi.
15. Sushruta Samhita, Sutra sthana, 46 /493: by Kaviraj Ambikadatta Shastri, Chaukhambha Samskrit Pratishthan, Varanasi.
16. Sushruta Samhita, Sutra sthana, 46 /468-69: by Kaviraj Ambikadatta Shastri, Chaukhambha Samskrit Pratishthan, Varanasi.
17. Agnivesa (1000 BC): Caraka Samhita, Sutra sthana, 26 / 81: English Translation by Das, Bhagwan and Sharma, R.K., Chaukhambha Publications, Varanasi.
18. Caraka Samhita, Vimana sthana, 1 /21-22: Chaukhambha Publications, Varanasi

Table 1: The six ritu (seasons) and their characteristics

Kaala (Semester)	Ritu (Season)	Masa (Month)	Characteristics of the Season
Adana (Uttarayana)	Sisira	Magha and Phalguna (mid January to mid march)	Cold and dewy
	Vasanta	Chaitra and Vaishakha (mid March to mid May)	Spring
	Grishma	Jyeshthaa and Aashaadha (mid May to mid July)	Summer
Visarga (Dakshinayana)	Varsha	Shravana and Bhadrapada (mid July to mid September)	Rainy
	Sharat	Aashvina and Kartika (mid Sept. to mid Nov.)	Autumn
	Hemanta	Margshirsha and Pausha (mid Nov. to mid January)	Winter

Table 2: Ritucharya'-Specific Diet and lifestyle for each season as per Ayurveda

Shishira ritu (Cold and Dewy season) & Hemanta ritu (Winter season)	
In these seasons the digestive activity becomes more powerful. Vata / Vayu are accentuated and need to be pacified by a heavy diet.	
Diet	Lifestyle
<ul style="list-style-type: none"> Intake of sweet, sour and salty food helps reducing the vata Wine prepared from jaggery (molasses) Wheat/gram flour products, milk products, sugarcane products and corn/edible oils Carrots, tomatoes, figs, dates, cane sugar, nuts, etc. Luke warm water aids in digestion bitter, astringent and pungent foods must be avoided	<ul style="list-style-type: none"> Abhyanga- Massage with oil followed by steam bath Dry body massage (udvartana) with fine paste/powder of kumkum (kesar/ saffron). Exercise (vyayama). Clothing-leather, silk and wool. Exposure to sunlight and fire to keep warm. Enjoying sexual pleasure as per ones' stamina and desire
Vasanta ritu (Spring season)	
During Vasanta Ritu, increased Kapha liquified by the heat of sun causes reduced Jathara Agni (digestive activity) thereby making one prone to suffer from diseases.	
Diet	Lifestyle
<ul style="list-style-type: none"> Intake of easily digestible food. Barley, honey, roasted meat; mango juice, etc. Beverages such as asava (fermented infusion), arista (fermented decoction), sidhu (fermented sugarcane juice), honey mixed with water and water boiled with extracts of chandan (sandal wood). Avoid foods that are hard to digest, cold, sour, sweet and fatty. Such foods increase kapha causing dosha imbalance and hence disease. 	<ul style="list-style-type: none"> Vigorous physical exercise. Dry massage. Nasal instillation of drops of chandan (sandal wood) oil / kumkum (saffron) oil. Avoid sleeping during day
Grishma ritu (Summer season)	
Grishma ritu is the season of dehydration, exhaustion, lack of energy and lethargy. During summer, there occurs decrease of kapha due to the heat of the sun and dryness in the air. Hence the kapha which is increased in Sharat is pacified in Grishma. Sun rays become powerful. Vata increases & Kapha decreases day by day.	
Diet	Lifestyle
<ul style="list-style-type: none"> Sweet, light, fatty and liquid food. Wine should not be taken in large quantities as it may cause burning sensation and even debility. Boiled rice with meat, corn flour, curd (yoghurt). Drink cold water from mud pot. Fresh juices and juicy fruits, salads, buttermilk in abundance. 	<ul style="list-style-type: none"> Anoint body with chandana (sandal wood) paste and take bath with cold water. Stay in cool places. Wear loose and light cotton dresses Use perfumes made of chandan (sandal wood), khus, etc. Sleeping during day is permitted. Too much exertion and exposure to sunshine should be avoided
Varsha ritu (Rainy season)	
The digestive activity weakens further and gets vitiated by Vata. Lack of sunshine as well as a cloudy atmosphere is uncongenial to health. Hence all methods to mitigate doshas and measures to enhance digestive activity should be adopted.	
Diet	Lifestyle
<ul style="list-style-type: none"> Easily digestible food. Pulses, meat juice, soups, old grains and mastu (thin water of yoghurt). Ginger, black pepper and lemon juice may be taken to reinforce appetite. Green Leafy vegetables should be taken sparingly. Light foods should be taken hot with ghee, curd and honey. River water is to be avoided for drinking. 	<ul style="list-style-type: none"> Panchkarma (biocleansing) is useful. Perfumes are soothing. Avoid sleeping during the day. Avoid exertion and too much exposure to sunlight. Avoid bathing in rivers
Sharat ritu (Autumn season)	
The dry and hot atmosphere aggravates pitta. Sudden exposure to sunlight after the rains and cool atmosphere increases pitta.	
Diet	Lifestyle
<ul style="list-style-type: none"> Ghee processed with bitter herbs is useful Bitter, astringent and sweet foods are recommended Easily digestible foods like rice, green gram, amla (Indian gooseberry), honey and sugar are recommended Avoid heavy food, curd, oil, strong liquors, etc. 	<ul style="list-style-type: none"> Udvartan with chandan (sandal wood powder). Bathing with warm water. Decorating oneself with Pearls gives a soothing effect. Avoid sleeping during the day.