



## Review Article

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### A CRITICAL SCIENTIFIC EVALUATION OF THE CRITERIA FOR QUALITY AND QUANTITY OF FOOD AS DESCRIBED IN AYURVEDA

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#### ABSTRACT

Food is vital to life as is air and water. Modern science has described a lot about the various aspects of food, its quality, quantity etc. as should be adopted by a person. Ayurveda has described about the importance of food in even greater detail stating it to be one of the three aspects a person should focus upon, for the maintenance of healthy life [along with Nidra (sleep) and Bramhacharya or Abramhacharya (abstinence or controlled indulgence in sexual practices)]. This is so because Ayurveda describes food to effect not only our physical health, but also our psychology and mental health. Keeping in view its importance a whole lot of description is available scattered in the texts, regarding the various qualities and principles governing the food intake. This article examines the various principles in Ayurvedic Samhitas, describing the quantity as well as the quality of food which should be consumed and evaluates these principles scientifically for their acceptance in the present society.

**Keywords:** Food quality, quantity, Ahara Matra, Kukshi Vibhaga, Guru – Laghu Ahara.

#### INTRODUCTION

Ayurveda is not only a medical science but also a complete science of life, which deals with health conservation and promotion, prevention and management of the diseases. It always instructs about how to live a healthy life by the adaptation of selective life style, food, conducts and avoidance of etiological factors. Ayurveda gives the first priority to health conservation of a healthy person rather than the management of the diseases. Ayurveda highlights the principle that 'prevention of etiological factors is the treatment in short'. Food is one of the three major factors described for maintaining health.<sup>1</sup> Lots of description about food is available in the Ayurvedic texts which describe that food is the main cause of health and diseases. The importance of food in Ayurveda can easily be understood by the quote of Charaka Samhita<sup>2</sup> which states that the whole world runs towards food, as complexion, happiness, beautiful voice, life, talent, health and satisfaction, maintenance of body, body strength and even intellectual capacities of the individual depends on food. He has further considered food intake as a practice equivalent to Yajya (a fire ritual),<sup>3</sup> thus describing the importance of being cautious in choosing the diet. All professional activities leading to happiness in this world, Vedic (stated in the Vedas – the most ancient texts of India) rituals leading to abode in heaven and observance of truth, Bramhacharya (abstinence) leading to salvation have been described on the basis of food<sup>4</sup> only. It is this food only, which by its good and bad nature, qualities and combination gives way to health or disease in the body.<sup>5</sup> Due to such prime importance of food in the maintenance of health, Acharya Charaka has stated to examine the food before use (quantity and quality) because healthy body is possible due to food.<sup>6</sup> Modern science also states that right food is essential for life, growth, energy, reproduction, protection from diseases and maintenance of body. On the other

hand, mal-food practice, excess or fewer amounts of food consumption, continuously consuming typed food articles and disobeying the time schedule of meal are main causes amongst the ill practices related to food. Ayurvedic texts have described in great detail about the dietetics i.e. categories of food articles, preparation methods of different foods, sources of food, quality of food articles, best food for different age groups, best food in a category, pattern of consumption of meal, protocol of meal serving etc. They have also indicated the nutritive value of foods and described about the diet in different conditions of diseases. Food is one of the most essential substances required daily. It is essential for growth of the body, supply body energy requirements, giving nutrition and nourishment to the body and maintain health and replenishment of the tissues. We all know that food is essential for the maintenance of life, to obtain energy, to maintain the health and to satisfy our calorific requirements. We consume a planned diet which includes a variety of foods which fulfil all our requirements. Health is reflected by our cheerful condition (Sukha) and illness is reflected by displeased condition (Dukha). Sufficient supply of calories is reflected by courage and enthusiasm (Utsaha) and insufficient supply reflected by indolence. In modern medical science all food articles are grouped into categories –

- Body building foods (Proteins- milk, meat, pulses, ground nuts etc.).
- Energy giving foods (Fats and Carbohydrates – Sugar, fats, oil etc.)
- Protective foods (Vitamins and Minerals- Fruits, Vegetables, Eggs etc.)
- Water

Above categories indicate that an admixture of above stated food articles (Sarvagraha) is necessary for maintaining the healthy status of a person. However, the amount of food which should be taken is decided by the nutritional requirement of the body, in terms of calorific value in modern medical science. Thus, in this study an extensive search was made in the Ayurvedic texts for the references regarding right Quantity of food and right Quality of food and an attempt was made to interpret ancient knowledge scientifically, in the light of modern medical Science.

#### **Quantity of Food**

In Ayurveda, very scientific instructions and guidelines are available about how a person can determine his or her quantity of meal. They are -

#### **Mitahar (fewer amount than full satiety)**

Quantity of meal should be a little less than hunger or full satiety. This is very simple and easy method to determine the quantity of meal.

#### **Agnibala (according to the digestive capacity)**

Quantity of meal directly depends on digestive strength of a person. A person can determine the strength of digestion in comparison to their meal by the simple assessment of the digestion time of food, time of next hunger and the quality of food that is further stated as the taken meal does not hamper the work and activities of the individual or harm the healthy status of a person.

#### **Kukshi Vibhaga (As per the division of stomach)**

The stomach capacity should be divided into three or four portions (imaginarily) and two portions should be filled by solid and liquid foods (or two portions by solid) and one portion by liquid diet, and one portion should be left for the easy gastric movements and air, to aid the digestion process.

#### **Modern View**

Modern medical science states that the average human stomach can hold about a litre of food comfortably, while on distension it can hold much more food. The human stomach can be distended up to four litres, which is more than one gallon.

#### **The quality of Food**

Ayurveda has very clear and confirm approach of diet and all the major texts have described in great detail about what are the sources of food, the different classification of food, what one should eat, what is the best beneficial food in a category, what is the most harmful food in a category, what type of food is always beneficial in all people, quality of different types of food, which food is necessary for any particular age etc. Regarding the right quality of food, which should be taken in an ideal diet, they have described that the food which should be consumed, should be decided keeping in view the above stated properties. In short, ideal qualities of food which should be consumed are – Hitahaara (healthy to the body) and Satmya (suited to the individual); Shadarasatmaka (containing all the six tastes); decided on the basis of

requirement of the individual (age, body strength, strength of digestive power); should be decided upon the healthy or ill condition of the individual and on the specific properties of the food item itself. Stating the importance of Hitahaara, Acharyas have stated that<sup>4</sup> healthy food promotes the maintenance of healthy body but unhealthy foods promote the chances of diseases. Further, it has been stated that<sup>7</sup> one should consume such type of food daily, which maintains the good health and doesn't allow the diseases to perpetuate. This is the overall extract of the concept of quality of diet in Ayurveda and at the same time is it also an indication of balanced diet in short.

#### **Modern view**

Modern Medical Science has considered balanced diet as 'Balanced diet is one which contains the various groups of food stuffs as energy giving food, body building food and protective food in the correct proportion and amount.

### **DISCUSSION**

#### **Quantity of food**

The structure of the stomach can be divided into four subdivisions: the cardia, the fundus, the body, and the pylorus. This division is quite similar to Ayurvedic kukshi vibhaga (division of stomach). The cardia is the region that is closest to the heart and is where the esophagus is connected to the stomach. The fundus is the region that curves above the rest of the stomach (with respect to a person who is standing upward). The body of the stomach is the largest region located in the centre. The pylorus is the region that is connected to the small intestine. The cardia and the pylorus have sphincter muscles that regulate the movement of food and fluids. Here we suggest that if a person takes food which fills the body and pylorus portion of stomach, it will be the ideal amount of food just as Ayurveda has described. If a person fills the stomach with amount greater than one litre meal (Chime- solid and liquid mixture), it will be troublesome for the gastric movements and digestion of the food to occur. It will further cause the distension of abdomen and heaviness of stomach and delayed digestion. Delayed digestion induces and increases prolonged gastric juice secretion and also interferes with the normal time for defecation. Such a condition results into hyperacidity, vomiting, constipation and oesophageal refluxes. If the situation persists, it may give rise to many gastrointestinal problems. Ayurveda always emphasizes that a person should take food in an amount little less than their hunger, digestive strength and the volume of stomach. Ayurveda also clarifies that a wise person should make differentiation of food into heavy meal (which takes more time to digest) and light meal (which takes lesser time to digest) as greater amount of light meal can be digested fairly properly but even normal amount of heavy meal can cause indigestion. Every food article has its own nature of being either heavy or light, property of being either easy or difficult to get digested, promoting the digestive process or slowing it. For a person who has good strength of digestive power, the nature of food article does not matter, but a simple and safe principle for maintaining health in every case is that one should always consume food in an amount little less than the digestive power of

the person and volume of the stomach. Quantity of food should be determined on individual basis for each person, in respect of his Agni (digestive strength). The food quantity will be right when the eaten meal does not exert pressure on stomach, does not inhibit the heart rate, does not inhibit the respiratory movements, does not cause the distension of abdomen, doesn't interfere in sitting, laughing, sleeping and talking, and is taken only when the proper digestion of previously taken food has occurred.<sup>8</sup>

### Quality of food

Analysing the concept of balanced diet of modern medical science and concept of ideal diet as per Ayurveda it becomes very clear that there is no major difference in both the theories as both advocate the usage of such kind of diet which will be beneficial to maintain the healthy state of the person and at the same time also confer protection from diseases. This aspect of health preservation and maintenance is also the primary aim of Ayurveda and that is the reason, the Ayurvedic texts have described, in a great detail, about the various aspects of diet in terms of the -

- Origin of food articles [Sthavara (from plants) and Jangama (from animals)],
- Classification on the basis of common origin, nutritional values, properties [Rasa (taste), Guna (properties), Veerya (action), Vipaka (the effect after digestion in the body) and prabhava (effects)] into twelve classes - Shooka dhanya varga (Cereals class), Shami dhanya varga (Legumes- pulses class), Mansa varga (Meat class), Shaka varga (Vegetable class), Phala varga (Fruits class), Harita varga (Green leafy vegetables class), Madya varga (Wine class), Jala varga (Water class), Gorasa varga (Milk and milk products), Ikshu vikara varga (Sugar class), Krittanna Varga (Cooked food class) and, Aharopayogi varga (Class of Adjuvants of foods).
- The various incompatible combinations of food (Viruddha Anna)
- Foods which can be consumed regularly as milk, Shami Dhanya (pulses), Mudga (*Vigna radiata*) etc.
- Foods which shouldn't be consumed regularly as dried leafy vegetables, dried meat, Pippali (*Piper longum*), Kshara (a class of drugs in Ayurveda which have the basic function of scraping up the tissues, also used internally as well as externally), Lavana (salt) etc.
- The most beneficial or wholesome food item for a particular function, condition, in a group etc.<sup>9,10</sup>
- The best food item or drug for a particular function, condition etc.<sup>11</sup>
- Properties of each food article
- Properties of Anupana (drinks taken after meals) of food
- Effect of various other aspects on the overall property of food as - effect of sex and stature of the animal on food properties, effect of processing method on properties, effect of dose on properties<sup>12</sup> etc.

An observation of the classification of food into the twelve classes reveals that it is quite similar to the modern classification. Cereals are the main source of

carbohydrates and vitamins of B group; legumes - pulses are rich in proteins and oils; fresh and dry fruits (nuts and oil seeds) are rich in micronutrients like vitamins and minerals; vegetables are rich in carbohydrates and fibres; milk and their products are rich in proteins, fats and many micronutrients; sugars are rich in carbohydrates; meats are rich in protein, fats and many micronutrients and class of adjuvants of food include various types of salt, oils, condiments and spices which aid in digestion and also act as appetite stimulant. Such kind of classification of food points to the fact that our Acharyas were also aware about the properties of the different classes of food and their different effects on the body. The principle of consumption of all the Rasas regularly by a healthy person also holds scientific importance, not only in terms of the aggravation or the pacification of the Doshas (the three basic constituents of our body as per Ayurveda which are responsible for all our physiological actions) but also in terms of nourishment of the body. As we know that our body is made up of Panchamahabhutas (the five basic great elements i.e. the earth, water, fire, air and space as seen in the external world) and the Rasas are also Panchabhautika in composition. After the metabolism of food, the food gets degraded in its constituent Mahabhutas (the great elements) and work on their specific target site, cell, tissue, body part and organ which is similar to it in the nature of Mahabhutas (element). The quality of meal which should be taken should be Hitahaara (meaning healthy for the individual taking it) and at the same time should also be compatible to him. This principle is very important as there are many things which are healthy by nature but observing the compatibility of the person for that particular food is also equally important, e.g. milk is a Hitahaara but it will not be suitable for a person who has intolerance to milk and develops diarrhea. In this way, Ayurvedic approach of diet is an individualized approach, wherein not only the quality of food items has to be considered but also at every step it should be interpreted in terms of the person for whom the diet has to be decided, according to his health or disease status, his requirement, digestive capacity, Satmya (suitability to the individual), Prakriti (the basic constitution) etc. as stated above. However, the food taken should be such that it satisfies the hunger and thirst of the individual, satisfies the calorific requirement of the body and organs and is able to maintain the strength and complexion, promote the intellect, is beneficial to the body and also sufficient for the growth of the body.<sup>13</sup> This is possible only when a person consumes nutritive food i.e. quality food or healthy food.

### CONCLUSION

A review and analysis of the literature available in Ayurvedic texts regarding the quality and quantity of food reveals that scientific description has been given in these texts. Food has been given prime importance for the maintenance of health thus food intake has been considered as a practice equivalent to Yagya (a fire ritual) in Ayurveda. This is the reason that food should be chosen and consumed very cautiously while keeping in view all the above stated aspects of quality as well as quantity of food and should not be treated as a mere

activity for survival of life. There is an ancient belief “what we eat, that we become”, thus, a person should choose and consume food very cautiously for health maintenance and disease prevention, as all professional activities leading to happiness in this world, the abode in heaven and lastly salvation, are all based on food.

#### REFERENCES

1. Vaidya Jadavji Trikamji Acharya, editor, Charaka Samhita with Ayurveda Deepika Commentary of Chakrapanidutta, Sutra Sthana, Tri aishaneeya adhyaya, Chapter 11, Verse 35, Revised ed., Chaukhambha Surbharati Prakashana, Varanasi; 2005. p. 74.
2. Vaidya Jadavji Trikamji Acharya, editor, Charaka Samhita with Ayurveda Deepika Commentary of Chakrapanidutta, Sutra Sthana, Anna pana vidhim adhyaya, Chapter 27, Verse 349-50, Revised ed., Chaukhambha Surbharati Prakashana, Varanasi; 2005. p. 174.
3. Vaidya Jadavji Trikamji Acharya, editor, Charaka Samhita with Ayurveda Deepika Commentary of Chakrapanidutta, Sutra Sthana, Anna pana vidhim adhyaya, Chapter 27, Verse 345-47, Revised ed., Chaukhambha Surbharati Prakashana, Varanasi; 2005. p. 174.
4. Vaidya Jadavji Trikamji Acharya, editor, Charaka Samhita with Ayurveda Deepika Commentary of Chakrapanidutta, Sutra Sthana, Anna pana vidhim adhyaya, Chapter 27, Verse 350, Revised ed., Chaukhambha Surbharati Prakashana, Varanasi; 2005. p. 174.
5. Vaidya Jadavji Trikamji Acharya, editor, Charaka Samhita with Ayurveda Deepika Commentary of Chakrapanidutta, Sutra Sthana, Yajjah Purushiyam adhyaya, Chapter 25, Verse 31, Revised ed., Chaukhambha Surbharati Prakashana, Varanasi; 2005. p. 129.
6. Vaidya Jadavji Trikamji Acharya, editor, Charaka Samhita with Ayurveda Deepika Commentary of Chakrapanidutta, Sutra Sthana, Vividh ashit peetiya adhyaya, Chapter 29, Verse 41, Revised ed., Chaukhambha Surbharati Prakashana, Varanasi; 2005. p. 181.
7. Vaidya Jadavji Trikamji Acharya, editor, Charaka Samhita with Ayurveda Deepika Commentary of Chakrapanidutta, Sutra Sthana, Matra shiteeya adhyaya, Chapter 5, Verse 13, Revised ed., Chaukhambha Surbharati Prakashana, Varanasi; 2005. p. 38.
8. Dr S Suresh Babu, editor, Ashtang Sangraha of Vagabhatta (Sutra Sthana, English translation), Sutra Sthana, Matraa shiteeya adhyaya, Chapter 11, Verse 2, First edition, Chaukhambha Orientalia, Varanasi; 2004. p. 125.
9. Vaidya Jadavji Trikamji Acharya, editor, Charaka Samhita with Ayurveda Deepika Commentary of Chakrapanidutta, Sutra Sthana, Yajjah Purushiyam adhyaya, Chapter 25, Verse 38, Revised ed., Chaukhambha Surbharati Prakashana, Varanasi; 2005. p. 130-31.
10. Vaidya Jadavji Trikamji Acharya, editor, Charaka Samhita with Ayurveda Deepika Commentary of Chakrapanidutta, Sutra Sthana, Yajjah Purushiyam adhyaya, Chapter 25, Verse 39, Revised ed. Chaukhambha Surbharati Prakashana, Varanasi; 2005. p. 131.
11. Vaidya Jadavji Trikamji Acharya, editor, Charaka Samhita with Ayurveda Deepika Commentary of Chakrapanidutta, Sutra Sthana, Yajjah Purushiyam adhyaya, Chapter 25, Verse 40, Revised ed., Chaukhambha Surbharati Prakashana, Varanasi; 2005. p. 131-32.
12. Vaidya Jadavji Trikamji Acharya, editor, Charaka Samhita with Ayurveda Deepika Commentary of Chakrapanidutta, Sutra Sthana, Anna Panavidhim adhyaya, Chapter 27, Verse 331-42, Revised ed., Chaukhambha Surbharati Prakashana, Varanasi; 2005. p. 172-73.
13. Vaidya Jadavji Trikamji Acharya, editor, Charaka Samhita with Ayurveda Deepika Commentary of Chakrapanidutta, Sutra Sthana, Anna Panavidhim adhyaya, Chapter 27, Verse 349-50, Revised ed., Chaukhambha Surbharati Prakashana, Varanasi; 2005. p. 174.

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