



ROLE OF RASAS AND THEIR ORDER OF INTAKE IN NUTRITION

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ABSTRACT

Malnutrition is one of the leading causes of death worldwide and Accounts for more than 45% of the deaths under the age of five .there are many programmes running to fight malnutrition. *Ayurveda* has solutions for most of the problems prevailing in the current era. Malnutrition can also be fought with *Ayurvedic* principles as tools. As per modern science, food is the main source of nutrients like carbohydrates, proteins, fats, vitamins, minerals etc. Food is the medicine for Malnutrition. In *Ayurveda* the nutrition in food is present in the form of Rasas, Gunas, Viryas and Vipakas. In *Ayurveda*, dietetic rules have been mentioned to facilitate the absorption of nutrients, assimilation and transformation into tissues.

Rasas are the entities that can be considered as nutrients based on their functions in the body, but for the maximum effect of the Nutrients (*Rasa*), rules should be followed. Intake of only one *Rasa* in excess regularly may cause weakness, which is one of the symptoms of malnutrition. There are rules for taking *Rasa*, different types of *Rasas* should be taken for enhancement of strength (*Bala*) and nutrition. Further, the *Rasas* should be taken in a proper order.

Keywords: Malnutrition, Nutrients, *Rasa*, *Ahara*, *Guna*, *Vipaka*, *Virya*

INTRODUCTION

Malnutrition is one of the leading cause of death worldwide accounting for more than 45% of deaths of children under five years of age. Nutrition is the scientific study of the sum of processes concerned in the growth, maintenance and repair of the living body as a whole or of its constituent organs.^[1] Nutrition includes, intake of food and its absorption, assimilation, biosynthesis, catabolism, and excretion of the food.^[2] Nutrition includes intake of food and its absorption, assimilation, biosynthesis, catabolism, and excretion of the food.^[3] Nutrients are the chemical substances in food that provide energy and essential substances needed by the body for good health. In *Ayurveda*, the said functions of nutrients are carried out by the *Rasa* present in the food along with the *Gunas*, *Viryas* and *Vipakas* in the food. The Signs of Good Nutrition described in modern science are similar to the signs of proper intake of *Rasa* i.e state of excellence of Dhatus (Body tissues), shiny and lustrous hair, lustrous, smooth skin clear eyes, alert expressions, efficient circulation, tolerance to high stress level and easy flexion of joints and muscles. The proper signs of proper intake of *Rasa* as mentioned by *Acharya Charaka* are reflected as signs of good nutrition of *Dhatus* like clear, unctuous, thin and soft skin with soft hair, reddish hue of the nose tip, tongue, nails, ears etc. Stable and well-formed cheeks, neck, shoulders,

abdomen, joints etc, excessive softness of eyes , hair, nails , teeth etc, well-formed dentures and stable skeleton^[4] In *Ayurveda*, dietetic rules have been mentioned to facilitate the absorption of nutrients, assimilation and transformation into tissues. One amongst, these rules is to follow the specific order of intake of *Rasas* in the food. It is mentioned that one should start food with the articles that are sweet in taste, followed by Sour and salty and in the end one should take pungent, bitter and Astringent food Articles.^[5]

CONCEPT OF RASA

There are six *Rasas* i.e. tastes mentioned in *Ayurveda*. *Madhura* (sweet), *Amla* (sour), *Lavanaa* (salt), *Katu* (pungent), *Tikta* (bitter), *Kashaya* (Astringent).

There are five components in the substance namely *Rasa* (taste), *Guṇa* (properties), *Vīrya* (potency), *Vipāka* (rasa after digestion and metabolism) and *Prabhāva* (specific pharmacological effect), which explain and determine pharmacological behavior of a substance. These five principles are nothing but manifestations of five mahābhūtas in specific states of activation. Therefore, these principles do indicate the structural and consequent activity of any substance.

DOSHAS AND RASAS

Six *Rasas* with different permutations and combinations affect different *Doshas* like *Vata* is aggravated by excessive usage of *Katu*, *Tiktha* And *Kashaya Rasa* likewise Aggravated *Vata* can be balanced by usage of *Madhura*, *Amla* and *Lavana Rasa*, *Pitta* is aggravated by *Katu*, *Amla* *Lavana* and pacified by *Madhura*, *Tikta*, *Kashaya*. *Kapha* is Aggravated by *Madhura*, *Amla*, *Lavana* and pacified by *Katu*, *Tikta*, *Kashaya*.^[6]

ORDER OF INTAKE OF RASA

There are many rules that are described in the *Ayurvedic* texts regarding the intake of food, to get the maximum benefit out of food, out of these rule one rule is regarding the order of intake of *Rasa*. It is said that while taking food one should start by taking *Madhura Rasa*, followed by *Amla*, *Lavana* and *Katu* and in the end *Tiktha* and *Kashaya Rasa* should be taken.^[7]

Madhura Rasa at the beginning of the meals: *Madhura Rasa* at the start of the meal pacifies the *Vata* aggravated by hunger reflex. Further, *Madhura Rasa* is predominant in *Prithvi* and *Jala Mahabhuta*.

Amla, Lavana and Katu Rasas in the middle of meals: *Amla Rasa* is predominant in *Agni* and *Prithvi Mahabhuta*, *Lavana Rasa* is predominant in *Jala* and *Agni Mahabhuta* and *Katu Rasa* is predominant in *Vayu* and *Agni* that enhances the *Agni* and improves Digestion and aids assimilation.

Tiktha and Kashaya Rasas in the end of meals: *Tikta Rasa* is predominant in *Vayu* and *Akasha Mahabhuta*, *Kashaya Rasa* predominant in *Prithvi* and *Vayu Mahabhuta*. They help to pacify the *Kapha* aggravated after meals. They also help in proper digestion of the ingested food.

And explanation for this according to modern nutrition is that Carbohydrates which form the bulk of the food are *Madhura in Rasa*^[8], similarly, salt gives taste to the food and intake helps in the secretion of Ptyalin^[9], amylase etc. which are essential for digestion and acidic environment provided by *Amla Rasa* is required for proper functioning of these digestive enzymes.^[10] In the end bile having *Katu* and *Kashaya Rasa* and its secretion is enhanced by the intake of *Katu* and *Kashaya Rasa*.^[11]

Rasas and Various Dietary Articles Indicated in Different Health Conditions

Diseases are caused due to disequilibrium and derangement in the site of *Doshas*. Further, in management of any disease, *Ahara* (diet), *Vihara* (lifestyle) and *Aushadha* (Medicine) should either have potency to pacify the aggravated *doshas* or to elevate the decreased *Doshas*.

Madhura Rasa dietary article in Diabetics/Obese/Santarpanjanya Vikaras:
Rice

Amla Rasa dietary article in Amla pitta/Skin disorders/Pittaja disorders/Cough
Amalaki, Sweet lime, Citrus medica.

Lavana in Hypertensive/Cardiovascular problems/Oedema

Rock salt (*Saindhava*), less salt
Salts are hot in potency and tend to increase *pitta* and are not considered good for ocular health, but still *Saindhava Lavana* is prescribed in eye diseases.^[13]

Katu Rasa in Amla pitta/Skin disorders/Pittaja disorders

Black pepper, *Ardraka* (ginger), also excessive use of pungent may cause infertility^[14], but *Shunthi* and *Pippali* despite being *Katu* are aphrodisiac.^[15]

Tikta Rasa in Vata Vyadhi/ Sandhi Vata

Bitter gourd (*Karavellaka*), Bottle gourd, Fenugreek (*Methika*)

Kashaya Rasa in Vata Vyadhi/Sandhi Vata

Butter milk
Also the astringent food articles are cold in potency and have *Stambhaka* property, but *Haritaki* is an exception.^[16]

The *Rasa wise Ahara* are given in all the Diseases like-*Jwara* (Fever) the food articles predominant in *Tikta* and *Katu Rasa* are indicated for examples pulses like - *Mudga*(green gram), *Masoora* (Red lentils),*Chanak*(chickpeas), *Kulatha* (horse Gram), vegetables like -*Karavellaka* (bitter gourd) ,*Patola*, etc^[17] and black pepper, *Sunthi* (dry Ginger) .

The Food articles that cause *Raktapitta* are predominant in *Madhura*, *katu* and *Amla Rasa*, because these *Rasas* vitiate *Pitta*. But if these *rasas* are stopped in the diet, the patient will ultimately see malnutrition, hence these *Rasas* should also be included, hence there are certain food articles having these *Rasa*, but are still used in the treatment like-*Shali* (variety of rice), *Shashtika* (Variety of rice), *Makushtha*.

Similarly *Gulma* is Pure *Vataja* Disorder and *Katu*, *Tikta* and *Kashaya Rasa* should not be used as they aggravate *Vata*, but no pulses are contraindicated despite being *Kashaya*.^[18]

Although there is indication of food articles predominant in particular *Rasa*, but intake of all *Rasas* is beneficial. Hence, the food articles with particular *Rasa* may theoretically increase the disease, but practically particular food item that has particular *Doshahara* property can be incorporated in diet.

Madhura Rasa food Articles in *Prameha* – *Madhu* (honey), *Shali* (variety of rice), *Shashtika* (variety of rice), *Yava* (Barley) In *Shotha* (Edema) the food articles which are alkaline, sour, and with hot potency are

contraindicated, but still *Souvarchala* salt, *Ardraka* or *Shunthi*, *Pippali* (long pepper), *Maricha* (black pepper) are indicated as *Pathya*^[19] In *Udara Roga* Salts are contraindicated^[20] but then when *Pathya* or diet is indicated Salt is indicated with *Takra*.^[21]

Traditional Regional Way of Order of Intake of Food/Rasa

Rajasthan (North) –All the food is served together in a single plate, but people start their meal by eating *Choorma* first, which is Sweet in taste and is prepared with *Ghee*, *Moothiya* (a preparation from wheat flour) and Jaggery. After that *Dal* (pulse soup) with *Baati* (round ball of wheat flour cooked in slow heat) is served.

Gujarat (West)– The meal starts by servings of *Jalebi* (a sweet) along with *Fafda*. After that full meal comprising of *Roti*, *Kadhi or dal*, *Rice* and *Sabzi* is served. Further, *Gujarati* dishes are added with little sugar or jaggery, making the *Thali Shadrasatmaka* (containing all six tastes).^[22]

Karnataka (South)- The whole meal is served, each of the dish has a specific place on the plate/banana leaf, the meal is started by eating the sweet first. After serving *Ghee* to everyone, one may start the meal. This is done to ensure that everyone seated has been served all the dishes completely, followed by soup like dishes such as *Saaru*, *Muddipalya*, *Majjige Huli* or *Kootu*, eaten with hot rice. *Gojju* or *Raita* is served next; two or three desserts are served; fried dishes such as *Aambode* or *Bonda* are served next. The meal ends with a serving of curd rice or butter milk and rice.^[23]

Nagaland(East)- The meal is served in accordance with the eastern countries like Japan and China. Appetizers like soups etc. are served first followed by the meal and it is concluded by taking sweets.

DISCUSSION

Nutrition is crucial, as many diseases are produced due to malnutrition. In *Ayurveda*, nutrition is based on several factors like *Rasa*, *Guna*, *Virya*, *Vipaka*, and *Agni* that complement each other. The order of intake of *Rasa* help in proper nourishment, assimilation and adequate formation of *Dhatus* or tissues. The continuous use of single *Rasa* decreases the *Bala* of an individual^[24] as the deficiency of the nutrition occurs. Excessive intake of *Madhura Rasa* may cause Diabetes and Obesity. The diseases that are caused due to over nutrition can cause decrease in *Bala*.^[25] Intake of single *Rasa* or excessive intake of single *Rasa* results in variety of disorders due to aggravation of *Doshas*. The food is based on *Rasas* and the medicines based on the *Virya*^[26] and hence the *Pathya* is also designed keeping in mind the *Rasas* that are needed to balance the *Doshas* and enhance *Agni*.

Some articles despite having the *Rasa* that is contraindicated in a particular disease are mentioned as *Pathya* because other factors of the food may help in providing therapeutic effect. For example *Saindhava*

Lavana despite being salt, it is cold in potency and hence can be used in the eyes disorders.

Madhu contains both *Madhura Rasa* and *Kashaya Anurasa* but *Ruksha*, *Medohara*, *Shleshmahara* and *Lekhana* properties make it *Pathya* in *Santarpantha Vyadhi* like *Madhumeha* (Diabetes), *Sthaulya* (Obesity) etc.

Yava is *Madhura*^[27] or *Kashaya*, *Madhura*^[28] but still considered best amongst cereals for *Prameha*^[29] because of *Ruksha* property it alleviates the *Kapha* and becomes the best choice for Diabetes, obesity etc. conditions.

In *Shotha*, *Saouvarchala Lavana* is indicated because it is *Sukshma* and *Laghu* and also it acts as an appetizer.^[30]

Also *Maricha* has *Shoshana* and *Chhedana*^[31] Properties and hence indicated in *Shotha*, *Ardraka* (Ginger) enhances the *Agni* and hence helps reduce *Shotha*.

In *Udara Roga Takra* with *Trikatu*, *Yavakshara* and *Saindhav Lavana* is indicated because it manages all the three *Doshas*.^[32]

Amla Rasa is one of the etiological factors of the *Pandu* (Anemia)^[33] but *Matulunga* (a type of citrus fruit) is indicated because it is *Laghu*^[34] and it has Vitamin C which facilitates the absorption of Iron.^[35]

Amla Rasa is contraindicated in *Pittaj* disorders but *Amalaki*, *Citrus medica* are mentioned in *Pathya* because of *Sheeta virya* of the above three.^[36]

Also the astringent food articles are cold in potency and have *Stambhaka* property, but *Haritaki* is an exception.^[37]

Despite being *Katu* Black pepper, *Ardraka* (ginger), are aphrodisiac because Ginger has *Madhura Vipaka*^[38] and Black pepper increases the excitability because of its *Ushna Virya* Bitter gourd (*Karavellaka*), Bottle gourd are *Tikhta* but are advised in *Vata Vyadhi* because the *Virya* is *Ushna*.^[39]

CONCLUSION

Rasas are essential components for nutrition and can be correlated with the nutrients, but the rules of taking rasas is crucial for optimum nutrition. And the order of intake of *Rasa* enhances *Agni* facilitates digestion, assimilation and formation of *Dhatus*, thus enhancing nourishment. The *Bala* enhances, thus helps in prevention of diseases.

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