



## REVIEW ARTICLE

### CRITICAL ANALYSIS OF *AMLA RASA* AND ITS EFFECTS ON HUMAN BODY

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#### ABSTRACT

*Ayurveda* mainly concentrates on prevention and treatment of diseases, where in it gives more importance to food and nutrition. In *Ayurveda Rasa* concept is explained which is having 6 *Rasa*'s, *Amlarasa* is one among the *Shad Rasa* and each *Rasa* is having its own individual nutritive value. So the present study emphasizes on the physical properties of *Amlarasa* and its effects on the body when it is consumed in normal quantity and in excess quantity. In *Ayurveda Rasa* has been told in different contexts, here *Rasa* is taken as sense of taste which is perceived through *Rasanendriya*, *Amala Rasa* is predominant of *Prithvi* and *Agni Bhutas*. It is *Vyavayi*, *Laghu* and *Snigdha*. *Mukhabodhana*, *Asyakanthavidaha*, etc are the characters of *Amla Rasa*. *Dantaharsha*, *Trishna*, *Akshinmilana*, etc are the *Atiyoga lakshanas* of *Amlarasa*. Concept of *Rasa* is bases for the nutritional value of the food. *Amla Rasa* is a nutritive *Rasa*, it performs functions like *Deepana*, *Pachana*, *Rochana*, *Hrudya* etc. When consumed in excess, it may causes features like *Bhrama*, *Pandu*, etc. which are mostly related to *Pitta* and *Raktha Vrudhi* because of *Agneya* nature of *Amla Rasa*.

**Keywords:** *Amlarasa*, *Mukhabodhana*, *Asyakanthavidaha*, *Trishna*, *Akshinmilana*.

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## INTRODUCTION

The ancient science of life which is highly relevant to now days, *Ayurveda* gives lot of importance to nutrition in balanced way. It emphasizes the good effects as well as ill effects of all the things which interact with the body. Nutrition or food is considered to be one among the tri pallor's supports the human life. The diet or nutrition in *Ayurveda* is based on the concept of *Rasa* or taste. The *Rasa* of the food substance determines its action on the body that is its effect on *Dosha-Dhatu-Mala* functioning and maintenance of wellbeing. The *Amla Rasa Dravya* (food substances with sour taste) are told to have many beneficial effects on the body and also can harm body when taken in excess. This paper highlights the effects of *Amla Rasa* and its harmful effects with the rationale behind these effects.

## AIMS AND OBJECTIVES –

- To review physical properties of *Amla Rasa*.
- To review the effect of *Amla Rasa* when taken in normal or needed quantity.
- To review the effect of *Amla Rasa* when taken in excess quantity.

## MATERIALS AND METHODS

**Rasa** - Ayurveda quotes that perception of taste is important and *Rasa* can be called as taste, in a constant it is equally important to know structure, physiology, state of mind and consciousness in all point of view. Taste (*Rasa*) is said to be an effective therapeutic way to

determine the minutest composition of food as well as body's own constitution and has high significance other than sensing the taste of food and determining its effect in balancing the state of body, mind and spirit<sup>[1]</sup>.

### **Rasa in different contexts**

**Rasa (Dhatu):** One among the *Sapta Dhatu*<sup>[2]</sup>.

**Rasa (Parada/Mercury):** In *Rasashashtra*, *Parada* is synonymous to *Rasa* as it has capacity of accepting other metals like gold etc.

**Rasa (Kalpana):** It is a juice of plant which is being expressed by crushing<sup>[3]</sup>.

**Rasa (Indriyarth):** The object, known by *Rasanendriya*, the sense organ located in the tongue is called as *Rasa*<sup>[4]</sup>.

*Rasa* is defined as a special sense known through the *Rasana* or *Rasanendriya* (tongue or taste buds). But after all the observations concept of *Rasa* can be defined as an object of gustatory sense organ located in the tongue which is an expression of perceiving taste in terms of composition, properties and probable action of the *Dravya*<sup>[5]</sup>.

**Numbers of Rasas** - There are six *Rasas* which are has more importance in therapeutic process. They are *Madhura*, *Amla*, *Lavana*, *Katu*, *Tikta* and *Kashaya*<sup>[6,7]</sup>.

**Rasa in Nutrition Concept** – *Rasa* is the director of action of *Ahara Dravya*, as per *Ayurveda*, *Ahara* should contains all 6 *Rasas*

otherwise it is not balanced diet. Each *Rasa* will have special functions depending upon their physical constituents. All *Rasa*'s together in regular quantity provides better nutrition and maintain the health.

#### **Concept of Amla Rasa -**

*Amla* means sourness or acidity so the taste which is perceived as sourness is known as *Amla Rasa*.

**Panchabhoutika constituents** - It is predominant of *Prithvi* and *Agni Bhutas*<sup>[8]</sup>. In some other classics it is mentioned that it is *Jala* and *Agni Bhutas* and is responsible for formation of *Amla Rasa*<sup>[9]</sup>.

#### **Properties and functions of Amla Rasa**

It is *Vyavayi*, *Laghu* and *Snigdha*<sup>[10]</sup>. It has digestive and appetizing which gives rise to an acid (digestive) reaction in the stomach, it is cold to touch and originates a slimy or mucous secretion., it pacifies *Vata* by acting as carminative (*Anulomana*), creates burning sensation in stomach (*Koshthvidahi*) and increases *Pitta* and *Raktha Dosha*. It is hot in potency but cold to touch, nourishes sense organs, produces interest in foods (*Rochana*) and acts as a digestive and appetizer. It increases and nourishes body (*Brimhana*, *Tarpana* and *Prinana*) promote secretion like digestive juice (*Kledana*) and cardiac tonic (*Hridya*)<sup>[11,12]</sup>.

#### **Characters of Amla Rasa**<sup>[13]</sup>

*Dantaharsha* (dentine hypersensitivity), *Mukhasrava* (secretion in the mouth), *Swedana* (sweating), *Mukhabodhana* (increase interest towards food), *Asyakanthavidaha* (burning pain in mouth and throat), *Sharira Shaithilaya* (looseness of body), *Durbalanamshwayathuapadayati* (oedema in weak persons), *Dosha Pachana* of *Kshata*, *Dagdha*, *Bhagna*, *Shotha*. (suppuration in wounds, burns, fractures or swelling), *Paridahati Kantham Urohridaya* (burning sensation in throat, heart and chest).

#### **Effect on Dosha**

*Vata Dosha* is pacified by three *Rasas* i.e. *Madhura*, *Amla*, *Lavana* and *Pitta Dosha* is pacified by *Kashaya*, *Tikta*, and *Madhura*. *Kapha Dosha* is pacified by *Katu*, *Tikta* and *Kashaya*.

*Amla Rasa* aggravates *Pitta* due to *Ushna-Snigdha Guna*, aggravates *Kapha* due to *Snigdha Guna* and gives *Kledana* action. It alleviates *Vata* by *Ushna-Snigdha* qualities and the main property of *Amla Rasa* is to maintain *Vata Dosha* in its own path, this activity is known as *Vatanulomana*<sup>[14]</sup>.

#### **Effect of Amla Rasa on Dhātu**

In the case of *Raktha Kshaya*, the relationship between *Amla* and *Raktha Dhātu* will facilitate each other due to their *Samanyata* of *Gunas*. In other contexts the relationship between

*Raktha* and *Amla* like *Pandu*, *Raktha Pitta* etc. this relationship takes an impending effect over the body due to association with other *Nidanas* related to those specific diseases<sup>[15]</sup>.

#### Effect of *Amla Rasa* on *Mala*

Due to *Snigdha Guna* it expels *Mala* and *Mutra* with ease and because of *Ushna Guna* *Amla* promotes *Sveda*. It relieves *Mudhavata* by promoting proper *Pachana* & it expels *Mala*.

Once the *Malas* are expelled, the obstruction to *Vata* is cleared. Thus it initiates the proper flow of *Vata* (*Anulomana*) in *Mudhavata*<sup>[16]</sup>.

#### Effect of *Amla Rasa* on *Agni*

**Table no. 1: Functions of *Amla Rasa* according to *srotas***

<i>Srotas</i>	<i>Karma</i>
<i>Annavaha</i>	<i>Bhaktam Rochayati, Agni Dipayati, Vatanulomayati, Asyam Sravayati, Bhuktam Apakarshayati, Jarayati.</i>
<i>Rasa vaha</i>	<i>Urjayati, Balam Vardhayati, Hridayam Tarpayati, Prinayati.</i>
<i>Rakthavaha</i>	<i>Vardhana</i>
<i>Mansavaha</i>	<i>Deham Brihayati, Balam Vardhayati</i>
<i>Medavaha</i>	<i>Kledayati</i>
<i>Shukravaha</i>	<i>Kshaya</i>
<i>Malavaha</i>	<i>Anulomana of Mala</i>
<i>Manovaha</i>	<i>Mano Bodhayati, Indriyani Dradhikaroti</i>

#### Importance of *Amla Rasa* in *Swastha*

*Shadrasayuktha Bhojana* has been advised and should be used in a proper sequence as mentioned. *Sushruta* quotes the sequence of

*Bhaktam Rochayati* - It causes *Mukha Kshalana* (washing like action) by promoting salivation (serous secretions) and mucous secretions in the mouth.

The interaction of *Rasanendriya* with *Dravya* is increased, taste is appreciated better and hence *Ahara* along with the association of *Amla Rasa* tastes better and increases its consumption.

*Dipana* - it promotes the activity of *Agni* by the virtue of *Ushna Guna* and increases appetite.

It also increases *Pachana* aspect of *agni*.

*Rasa* in *Ahara* that is initially *Madhura*, *Amla* and *Lavana* and at the end *Katu Tikta* and *Kashaya Rasa* s should be taken<sup>[17]</sup>.

#### Utility of *Amla Rasa* in treatment

In case of *Raktha Kshaya* there is mentioning of *Amla Preethi*.

In treatment of *Pandu* *Amla Rasa Anupana* has been mentioned.

In contemporary science, the cases of Anemia, is given with vitamin C along with the iron & folic acid. So *Amla Rasa* plays important role in treatment<sup>[18]</sup>.

### Signs and symptoms of excess consumption of *Amla Rasa*<sup>[19,20]</sup>

There is explanation regarding *Atiyoga* in *Brihatryayies*.

It is explained that when the *Amla Rasa* is consumed in excess quantity it may causes any of the lakshanas enlisted below.

*Dantaharsha* - Morbid sensation of teeth, *Trishna –Thirst*, *Akshinmilana* - closing of eyes, *Samvejayati Lomani* - Horripilation, *Kapha Vilapayati* - It liquefy Mucus, *Pittam Abhivardhayati* - it increases the Pitta, *Raktham Dushayati* -It pollutes Raktha, *Mansa Dhatu Vidaha* - It Burns Muscle tissue, *Sharira Shaithilya* - Flaccidity of body, *Durbalanam Shwayathu Apadayati*-produces edema in weak persons, *Dosha Pachana* of *Kshata*, *Dagdha*, *Bhagna*, *Shotha*., *Paridahati Kanthamuro Hridaya* - it produces burning sensation in the throat and chest regions, *Timira* - darkness in front of eyes, *Bhrama* – dizziness, *Kandu* – itching, *Pandu* – Pallor, *Visarpa* - Spreading type of skin disease, *Visphota* -Skin rash

*Jwara* - Rise in body temperature)

### DISCUSSION

*Ayurveda* divides *Dravy* (*Ahara Dravya*) on many basis and nutritional values. *Rasa* is the

base for division of *Ahara Dravya*. There are so many other classification which holds good for different other peruses, but classification based on *Rasa* as benefits like carry identification by contact with tongue and their respective functions can be referred by their *Mahabhuta* predominance. Thus all the 6 *Rasas* are needed to be consumed every day for a balanced nutrition. Efficiency of each *Rasa* may causes changes in the body and over consumption will also lead to changes.

To maintain good health and strength, it is needed to consume *Ahara Dravyas* with all 6 *Rasas*, otherwise person will be susceptible for diseases and unable to perform his work normally.

*Amla Rasa* is said to be predominant of *Pruthwi* and *Agni* (*Jala* and *Agni*) *Mahahuta*, their *Gunas* will also be responsible to that, i.e. they have *Ushna*, *Guru*, *Ruksha*. Based on these we can explain the functions of *Amla Rasa Dravya*.

Any sour substance should process  $H^+$  ions to taste sour. All these are acidic in nature, with  $pH < 7$ , Chemically, the substances which are having  $H^+$  ions may not have action on the body, but some action will be common. *Ayurveda* also gives important in common action on sore substances, but individually. The substance may have different other functions also.

Discussion on Functions of *Amla Rasa*: It is having functions like *Deepana*, *Pachana*, *Snigdha*, *Hrudya*, *Rochana*, *Tikshana*, *Ushnavirya*, *Laghu*, *Kapha Pitta Raktha Vardhaka*, *Vatanulomana*, *Asyam Sravayati*, *Bhuktam Apakarshayati*, *Kledayati*, *Jarayati*.

*Deepana* and *Pachana*: By the virtue of its *Gunas* like *Ushna*, *Tikshna*, it enhances the *Jataragni* and does the *Deepana* and *Pachana*.

*Hrudya*: *Amla Rasa* is *Hrudya* means here we can considered as cardio protective as well as sensual satisfaction,

*Hrudhya* as Cardio protective – Various studies showed that there is an improvement in lipid profile studied by comparing levels of Total Cholesterol, Triglycerides, HDL, LDL, and Atherogenic index with Atorvastatin in high fat fed Albino mice.

*Hrudhya* as Sensual satisfaction – *Amla Rasa* gives mental and sensual satisfaction on eating, *Chakrapani* explains it as “*Hridhyanam Iti Ruchyanam, Amlam Svayam Eva Rochayati*” means *Hrudyam* means *Ruchi* and it produces more salivation and helps in taste perception of consumed food.

*Amla Rasa Dravyas* are not included in the *Hrudya Gana* so *Hrudya* can be taken as sensual satisfaction because of proper taste perception<sup>[21]</sup>.

*Rochana* – it is already explained in the above paragraph that *Amla Rasa* improves taste perception by producing more amount of

saliva which helps in proper mixing of food content and appreciation of taste.

*Kapha Pitta Raktha Vardhaka* – as the *Amla Rasa* is predominant of *Agni Mahabhuta*, and it is *Snigdha* in nature which are also the *Gunas* of *Kapha*, *Pitta*, and *Raktha*, by applying the *Samanya Vishesha Sidhantha* one can understand that *Kapha Pitta Raktha Vardhaka* action.

*Vatanulomana* – *Amla Rasa* is having *Sara Guna* which is told by *Bhavapraksha*, and *Sara Guna* helps to move the *Adhovata* and performs *Anulomana Karma*. Various studies reported the Citrus fruits are carminative and laxative in nature.

*Asyam Sravayati*- The parasympathetic nervous pathways for regulating salivation, demonstrate that the salivary glands are controlled mainly by parasympathetic nervous signals all the way from the superior inferior salivatory nuclei in the brain stem. The salivatory nuclei are located approximately at the juncture of the medulla and pons and are excited both by taste and tactile stimuli from the tongue and other areas of the mouth and pharynx. Many taste stimuli, especially the sour taste (caused by acids) elicit copious secretion of saliva often 8 to 20 times the basal rate of secretion

*Bhuktam Apakarshayati, Kledayati, Jarayati* – As *Amla Rasa* is predominant of *Jala* and *Agni Mahabhutha* which helps in proper moistening

of food and *Ushna Guna* helps in the proper digestion of consumed *Ahara*.

*Atiyoga Lakshanas* - if it is taken in excess it causes *Bhrama*, *Pandu*, *Shaithilya*, *Timira*, *Kandu*, *Visarpa*, *Shopha*, *Danta Harsha*, *Pittadusti*, *Mamsa Vridhahi*, *Trishna*, *Urodaha*, *Shotha*, *Sameelita Akshi*.

*Bhrama*, *Pandu*, *Visphota* and *Visarpa*, *Pittadusti* - *Bhrama* (vertigo), *Pandu* (anemia), *Visphota* (blister) and *Visarpa* (cellulitis) are because of vitiation of *Pitta* by the *Gunas* of *Amla Rasa* and along with the *Pitta*, *Raktha* also get vitiated and causes *Bhrama*, *Pandu*, *Visarpa*, *Visphota*.

*Danta Harsha* – means dentine hypersensitivity it is because of acidic nature of the *Amla Rasa* and Dentine contains thousands of microscopic tubular structures that radiate outwards from the pulp; these dentinal tubules are typically 0.5–2 micrometers in diameter. Changes in the flow of the plasma-like biological fluid present in the dentinal tubules can trigger mechanoreceptors present on the nerves located at the pulpal aspect, thereby eliciting a pain response. This hydrodynamic flow can be increased by cold, air pressure, drying, sugar, sour (dehydrating chemicals), or forces acting onto the tooth. Hot or cold food or drinks and physical pressure are typical triggers in those individuals with teeth sensitivity<sup>[22]</sup>.

*Trishna* – when *Amla Rasa* is taken in excess it causes *Pitta Vrudhi* because of *Ushna Guna* and it leads to *Shoshana* of *Dravamsha* causing *Trishna*.

*Shotha* –Due to vitiation of *Kapha Pitta* and *Raktha*, it is commonly seen in symptoms of citric acid intolerance or allergy. Swelling of the lips, face, tongue and throat, are often associated with food allergies and can make it very difficult to breathe and swallow. Swelling can also move to other areas of the body such as the eyelids, ears, hands and chest in the form of hives. These red, raised, often itchy, bumps can appear in one spot or all over the body depending on the severity of them it can last for hours<sup>[23]</sup>.

*Urodaha* – Acid reflux can be painful and is often associated with a burning sensation. It can occur when stomach acid is pushed into the esophagus. During an episode of acid reflux, you may taste regurgitated food or sour liquid at the back of your mouth or feel a burning sensation in your chest. Citric acid can cause an increase in stomach acid.

## CONCLUSION

The concept of *Rasa* (Taste) is the base for analysis of nutrition of the food substances.

*Amla Rasa* is a nutritive *Rasa*, which can increase all the *Dhatu* when taken in required quantity and performs functions like *Deepana*, *Pachana*, *Rochana*, *Hrudya* etc. Except quantity of *Amla Dravyas* to be used in food

every day cannot be told exactly as there are no proper references about it. When Consumed in excess, it may causes features like *Bhrama*, *Pandu*, etc. which are mostly related to *Pitta* and *Raktha Vrudhi* because of *Agneya* nature of *Amla Rasa*.

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