A Conceptual Review on the Role of Shadrasa (Six Tastes) in Psychosomatic Health According to Ayurveda

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Abstract - Ahara according to Ayurveda is the form of nutrition to both body and mind. The shift from traditional to the Western dietary pattern has become the leading cause of the growing burden of non-communicable diseases and this diet is also linked to increased rate of depression & other mental health disorders. Faulty lifestyle and poor diet are identified as one of the important risk factors for many mental illnesses such as Dementia, Alzheimer's disease, Depression, Anxiety, Schizophrenia, and other psychotic disorders. Various modern studies have clearly established the association of dietary habits and mental disorders. Food after entering the gut causes secretion of certain neurotransmitters or their precursors. Some of them influence the brain neurotransmitters by their concentration in the gut, some of them directly influence the brain through ENS by the route of gut brain axis, & some of them cross the blood brain barrier. The composition of food also influences the gut microbiota which act as precursors for *Majja Dhatvagni* (Agni which composes brain tissue) present in the gastrointestinal tract and helps in the assimilation of fatty acids. These fatty acids act as building blocks for the development of brain. The *Sattvika*, *Rajasika* and *Tamasika* psychic traits are identified by the type of food they consume. Ayurveda dietetics can be adopted in the form of *Pathya* and *Apathya* in psychosomatic disorders. Ayurvedic nutrition isn't about perfection, it's about moderation, mindfulness, and enjoyment. The present article is intended to highlight the significance of *ShadRasa* in relation to mental health.

Keywords- *Shadrasa, Psychosomatic Health, Gut Brain Axis, Mind Body Relationship*

INTRODUCTION

In Ayurveda, the senses are viewed as vital avenues of consciousness, serving as pathways through which our awareness and intelligence engage with the intrinsic consciousness and subtle intelligence of the food we are about to consume. Rasa, roughly corresponds to "taste" in english. Rasa is defined as a “knowledge perceived through *Rasanā Indriya* (roughly gustatory sensation) located at *Jihvā* (tongue)”. *Charaka* says *Rasa* is experienced the moment a substance comes into contact with the tongue. Beyond the physical impact of your diet, the food you eat can significantly alter your mental, emotional & spiritual state of your body[1]. Ayurveda, *Shadrasa* has not been limited to the sensory knowledge through the taste buds but it has also been attributed certain actions which can be linked to the mental & somatosensory also. Thus, *Rasa* refers to a complex totality of experience arising from all the preceptor interactions of the substance with sensors in the mouth and nasal passages, taste buds, olfactory, trigeminal and chemesthetic senses of nervous system. There are six primary rasas viz. *Madhura* (sweet), *Amla* (sour), *Lavana* (salty), *Katu* (pungent), *Tikta* (bitter) and *kashaya* (astringent)[2]. Ayurveda emphasizes that the diet should be customized for each individual according to their body

constitution *i.e Sharirika and Manasika Prakrati* (physical and mental constitution), *Agnibala* (digestive power), *Ritucharya & Dincharya* (seasonal and daily changes). The evidences from modern medical science also accept the influence of food in the mental health and diseased condition. Digested food is divided into 3 parts. The subtle part nourishes the mind, middle part nourishes the body and the gross part is termed as Mala (residue of metabolism). Unhealthy dietary habits are well quoted by *Ayurveda* in the pathogenesis of mental disorders such as *Unmada* (insanity), *Apasmara* (epilepsy), *Atatvabhinivesha* (psychic perversion) etc[3]. *Suśruta* says, the strength, intellect, complexion, cheerfulness, immunity, good voice, happiness etc of a living being is all dependent on the *Ahara* which is constituted by *Shadrasa* only.

AIM & OBJECTIVES

- To explore psychosomatic effects of Shadrasa
- To study the *Mind Body Relationship* influenced by *Shadrasa.*

MATERIAL AND METHODS

The material for this study has been primarily sourced from the classical Ayurvedic texts of the Brihatrayee, including Charaka Samhita, Sushruta Samhita, and Ashtanga Hridaya and Sangraha, aditionally relevant data extracted from peer-reviewed articles published in reputed journals, credible web resources, and the PubMed database.

DISCUSSION

Ahara is the source of strength, complexion, proper functioning of sense organs and motor functions. Each material in the universe is composed of five basic elements, the *Panchmahabhutas* namely *Pruthvi* (earth), *Jala* (water), *Agni* (fire), *Vayu* (air) and *Akash* (ether). The human body, constituted by the *Pancha Mahabhutas* (five elemental principles), assimilates food that is similarly composed of these fundamental elements. Through the process of digestion and metabolic transformation, food is decomposed into its elemental constituents, which subsequently nourish bodily tissues (*Dhatus*) and exert an influence on the mind. The elemental composition of food, in specific proportions, contributes to maintaining the equilibrium of the *Trigunas* (*Sattva, Rajas, and Tamas)*, thereby supporting both somatic and psychological homeostasis.[4]

Composition of *Rasa and its Constituents (Table 1) [5]*

Type of Rasa	Type of Maha Bhuta	Constituents
Madhura (sweet)	Pruthvi+ Jala	Proteins, Carbohydrates, Vegetable fats
Amla (sour)	Pruthvi+Agni	Acidic Nature
Lavana (salt)	Jala+Agni	Presence of sodium chloride with salty taste
Katu (pungent)	Agni+ Vayu	Essential Oils
Tikta (bitter)	Vayu + Akasha	Alkaloids & Glycosides
Kashaya (astringent)	Pruthvi+Vayu	Tannins, Astringent Nature

Rasa and its Properties (*Table 2)*

Madhura (sweet)	Snigdha	Sheeta	Guru
Amla (sour)	Snigdha	Ushna	Laghu
Lavana (salt)	Snigdha	Ushna	Guru
Katu (pungent)	Rooksha	Ushna	Laghu
Tikta (bitter)	Rooksha	Sheeta	Laghu

Kashaya (astringent)	Rooksha	Sheeta	Guru

Effect of Rasa on Mind (*Table 3)[6]*

Rasa	Effect
Madhura Rasa (Sweet taste)	Shadindriya Prasadana (Nourishes the five sense organs and mind)
Amla Rasa (Sour taste)	Mano Bodhayati (Stimulates mind)
Excess consumption of Katu Rasa (pungent taste)	Murchcha (syncope) and Bhrama (Giddiness)
Excess consumption of Tikta Rasa (Bitter taste)	Moha (Altered consciousness) and Bhrama (Giddiness

Shadrasa and Mind Body Relationship (Table 4)

Rasa	Corresponding Emotion of Brain
Madhura (sweet)	Satisfaction, contentment, fulfillment
Amla (sour)	Discernment, insight, awareness
Lavana (salt)	Desire, zest for life, passion
Katu (pungent)	Extroverted, driven, ambitious
Tikta (bitter)	Dynamic, focused, cool-headed
Kashaya (astringent)	Introspective, mentally clear, composed

Classification of Rasa by *Acharya Susruta* (Table 5)

Category	Rasa	Guna	Karma
Soumyam	Madhura,Tikta, Kashaya	Sheeta	Pittasamana, Moorchasamana, Avidahi
Agneyam	Katu, amla, lavana	Ushna	Pittavardhana, Moorchajanaka, Vidahi

The prolonged absence or excessive intake of any one of the six tastes in the diet may lead to disturbances in both physiological homeostasis and emotional well-being (*Table 6)*

Rasa	Results of Excessive Consumption
Madhura (sweet)	Complacent, apathetic, laziness & excess sleep
Amla (sour)	Tingling sensation in teeth, excess thirst, drowsiness in eyes, horripilation
Lavana (salt)	Hedonistic, excess thirst, heating & fainting like sensation,
Katu (pungent)	Angry, aggressive, offensive, feeling of darkness & unconsciousness , burning sensation, tremors
Tikta (bitter)	Bitter, pessimistic, giddiness & unconsciousness, dryness of mouth
Kashaya (astringent)	Obstruction of speech, constriction of channels, imparts complexion

Psychological Imbalance due to lack of Shad Rasa (*Table 7)*

Madhura (sweet)	Unsatisfied, discontented

Amla (sour)	Impulsive, careless, indiscreet, scattered
Lavana (salt)	Unmotivated, indifferent, procrastinating
Katu (pungent)	Passive, non-confrontational
Tikta (bitter)	Grief, disappointment
Kashaya (astringent)	overly sensitive, fearful, anxious

The different type of psychic personalities and their affinity towards certain type of foods is discussed in Bhagvadgeeta[7]. Different psychic personalities have different dietary choices. Acharya *Susruta* also explains the psychic traits of different personalities belonging to *Sattva , Rajas and Tamas [8].*

Table 8: Shows psychic personalities & character related to dietary choices [9]

Mental Personality	Dietary choices
Sattvika	Vrata Param (perform fasting), Shuchim (purity), Jitatma (self- control), Ashuchi Dveshi (dislike for impurity
Rajasika	Atimatra Ahara (take large quantity of food), Amisha Priyam (likes non vegetarian food), Mahashanam (voracious eater), Vikrita Ahara Sheelam (unhealthy diet pattern), Ahara Kamam (excessive desire for food)
Tamasika	Jugupsita Ahara Param (abnormal food habits), Ahara Lubdham (greedy for food), Toya Kamam (excess desire for water)

The Ahara and *Vihara* which is beneficial and nutritional to the body and also give the happiness to the mind is known as *Pathya* and opposite to that is known as *Apathya*[10]. Wholesome food and regimen agreeable to mind and senses promote *Tushti* (mental satisfaction), *Urja* (mental strength) and *Sukha* (happiness) as a result of which disease gets diminished. [11]

Order of Administration of Rasa
IN AUSHADH
In treatment of diseases rasa should be used in a definite order according to dosha as follows:

DOSHA	1st	2nd	3rd
Vata	Lavana	Amla	Madhura
Pitta	Tikta	Madhur	Kashyaya
Kapha	Katu	Tikta	kashyaya

In Ahara – One should start with Madhura, Amla, Lavana and finish with *Katu, Tikta, Kashaya*.
General Systemic Actions of *Shad Rasa*

- Madhura- Pleasing, brain tonic, healings, anti-abortifacient, pacifies thirst, galactagogue. Madhura rasa being agni sadhaka can be utilised in Bulimia (an eating disorder).
- Amla- promotes bleeding (anti-coagulant), Pleasing, sialogogue (secretion of saliva), appetizer and digestive. Amla rasa rich food enhances iron absorption (ferric to ferrous) & increases bioavailability, also can be used for amapachana pertaining to its ushna guna.
- Lavana- moistening, sialogogue, appetizer, digestive, expectorant, diuretic. Lavana rasa liquifies the solid mass and expels it due to tikshna guna, it can penetrate even minutest channels. Extremely helpful in Pakwashaya gat vata due to its ushna guna.
- Katu- Nervous stimulant, promotes bleeding, mouth cleanser, anthelminthic.
- Tikta- Blood purifier, removes toxins/pus/serous discharge, antipyretic. Tikta rasa has an absorbing effect & decreases meda, vasa, lasika etc

- Kashaya- Healing, absorbent, anti diuretic, normalize skin pigmentation.

Actions of *Shad Rasa* on *Dhatus*

- Madhura- Anabolic activity increase in dhatus- *ojavardhana, stanyajanana, varnya, keshya.*
- Amla - stimulates activities by improving agni, has a decreasing effect on shukra.
- Lavana- increases water content, causes laxity in the body *(sarva shareera avayavaan mrudu karoti)*
- Katu- Catabolic activity, scrapes away unwanted muscular structures *(mamsa vilekhana)*, breaks coagulatory pathways *(shonita sanghatambhinnathi*), reduces *stanya, shukra, meda.*
- Tikta- Catabolic activity, scrapes away *kleda, meda, vasa, majja, sweda, lasika, mootra* and helps in *stanyashodhana.*
- Kashaya- Catabolic activity, blood purification (*asravishodhana), kleda meda vishodhanam*

Actions of *Shad Rasa* on *Srotas*[12]

Srotas are the channels for the purpose of secretion, conduction and transportation of body constituents. In *Sroto vimaniya adhyay (Cha. Vi. 5) Charakacharya* has mentioned 13 *srotas* and their respective *mulasthana* except *Manovaha srota*s. But in *Charaka Sharirsthana Adhyay 1/20, Charaka Indriyasthan Adhyay 5/41* and *Charaka Chikitsasthan Adhyay 9/5, Manovaha srotas* has been mentioned clearly likewise brain does same activity like responses to incoming sensory, outgoing motor and nerve conduction. Functions of brain matches with functions of *Mana* mentioned in samhita.

- *Katu, tikta & lavana* are *srotoshodhak* (channel cleaners)
- *Katu- Vayavyaagneya guna margaan vivrunothi* absorbs fluid and expels obstructive materials - *pramaathi*
- *Tikta* acts in a similar way by absorbing the fluid due to *vata and* vacates the space on account of *akasha. Due to sookshma gunait* permeates even to minutest channels.
- *Lavana* - liquifies the solid mass and expels it due to *tikshna guna* but has no absorbing property
- *Madhura*, *Amla*, Kashaya may precipitate *srotorodha*, can be called as *sroto upalepaka.*

Indications and contraindications of Rasa (Table 10)

Rasa	Indications	Contraindications
Madhura (sweet)	General debility, Geriatric conditions, Habitual abortion, Deficiency of breast milk	Diabetes, Goiter
Amla (sour)	Loss of appetite, Dyspepsia	Gastritis, Internal hemorrhage, Jaundice
Lavana (salt)	Loss of appetite, Dyspepsia, as Diuretic	Skin diseases, Swelling, Ascites, Hypertension, Hemorrhage, Gastritis etc
Katu (pungent)	Loss of appetite, Indigestion, Obesity, Diabetes, Cough asthma, Skin diseases	Semen disorders, Retention of urine
Tikta (bitter)	Loss of appetite, Dyspepsia, Worms, Gastritis, Jaundice, Skin diseases, Fever, Obesity, Diabetes, Excessive discharges, pus etc	Disorders of vata, Semen deficiency or impotency
Kashaya (astringent)	Diarrhea, Hemorrhage, Wounds, Polyuria, Respiratory Disorders	General debility, Disorders of vata, Loss of appetite

Shad Rasa And its effect on Neurotransmitter

Diet and its influence on brain chemistry has been subject of interest in recent studies. The potential of certain dietary nutrients and supplements in area of mental health has been studied and it is observed that chemical communications takes place through neurotransmitters and neuromodulators. Some of the Neurotransmitters and their constituents are as follows:

- Phenylamines & derivatives octapamine, tetrahydro iso quinolines. Dopamines, nor epinephrine, epinephrine.
- Indolamines - serotonin, melatonin, tryptamine
- Cholinergic's - Acetylcholine and choline
- Amino acids and their derivatives - Glutamate, aspartate, glycine, taurine, histamine & GABA
- Hormones prostaglandins, cortico steroids, estrogen, testosterone, thyroid hormones.

Gut Brain Axis

Another significant arena which fortifies the relation between food and its influence on mental health is the advent of the concept of Gut Brain axis which has caused substantial interest in current era. The relation between enteric nervous system and the central nervous system has validated the concepts put forward by the concept of Six tastes (*shad Rasa)* in Ayurveda. The enteric nervous system (ENS) is called the second brain which extends from the lower third of esophagus to the rectum. It is a web of sensory neurons, motor neurons and interneurons. The ENS displays sophisticated co-ordination and exhibits response to changing dietary habits. The enteric microcircuits in the various specialized regions of digestive tract are wired with large number of neurons and synaptic sites where information processing occurs 28 Serotonin is a neurotransmitter that helps regulate sleep and appetite, mediate mood and inhibit pain. About 95% of serotonin is produced in the gastrointestinal tract. The gastro intestinal tract is lined with hundred million nerve cells or neurons. The bacteria present in the intestinal lining helps absorb nutrients from food and activate the neural pathways that travel directly between the gut and the brain. The food gut biome and emotions are linked to one another. In addition to the relationship between the nutrients in food and the neurotransmitters in the brain. The sensory neurons in the gut are specialized in detecting changes in thermal, chemical or mechanical stimuli and transmit this information for processing in the ENS and the CNS. Certain deficiency of nutrients has direct effect on mental status bringing into focus the involvement of gut- brain axis in such diseases. The plasma levels of tryptophan, tyrosine and choline vary several folds after the consumption of normal food. The brain level of the precursor is dependent on its plasma level. There is no blood brain barrier present in circulating tryptophan tyrosine or choline. This amino acid may prove useful in promoting performance in high stress situations. Use of supplementary choline has shown significant improvement in the treatment of Alzheimer's disease, mania, Depression etc. The body and mind are one interacting, interlocking network system. Imbalances in the body's basic core system-nutrition, hormones, immune function, digestion, detoxification, energy metabolism and mind-body cause brain disorders resulting in altered mood memory behavior and attention. Low levels of omega 3 fats are linked to everything from depression and anxiety to bipolar disease and dementia. Omega 3 fats with phospholipids form the basic cell structure of brain[13]. If the food lacks protein there will be deficiency of essential amino acids which may affect the brain and may make an individual sluggish, foggy, anxious, unfocused, tired and depressed.

Serotonin levels are necessary for maintaining a happy mood, reducing anxiety and irritability and adequate sleep. Similarly, neurotransmitter like GABA which keeps the mind calm and acetylcholine which helps in learning and memory are influenced by proper diet and lifestyle.

Other than nutritional deficiencies and their neurological manifestations other data which proves the gut brain axis involvement are the diseases which have gastric manifestations in neurological diseases and vice versa. The interaction between ENS and CNS often described as the gut brain axis has been of great interest in the field of research.

CONCLUSION

"The body and the brain are in constant conversation". There may not be an immediate obvious link between what goes into your belly and what happens in your brain, but Humans are highly complex and highly integrated system, The gut also has a direct line of communication to the brain via the vagus nerve, which runs from the brainstem to the large intestine. Mood-regulating neurotransmitters, including feel-good serotonin, are made in the gut. And once the gut pumps them out, the vagus nerve "acts like a two-way text messaging system that allows neurotransmitters to go back and forth, up and down, all the time, " Problems related to nutrition are often overlooked in patients with common mental health disorders (such as depression, anxiety, ADHD and ASD) towards

interventions focused on medication complemented by behavior/psychotherapy treatments. As a final thought, the study of how nutrition by *Shadrasa* and mental health are linked is a growing research area, and the results obtained so far are highly promising. The ultimate objective is to facilitate new strategies for improving the quality of life and health of people with mental illness and to prevent the onset, aggravation and negative impacts of diseases.

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