



EFFECT OF EXCESS USES OF *MADHUR & KATU RASA AHARA* IN ANIMAL MODEL

Dr. M. B. Pillewan¹ and Dr. Anand Prakash Verma²

¹Professor & HOD, Dept. Samhita, R.D. Memorial Ayurvedic College, Bhopal (M.P.) India.

²Associate Professor, Dept. Samhita, Pt. Shivshakti Lal Sharma Ayurvedic College, Ratlam (M.P.) India.

Abstract

The human body composed of five basic elements (*Pancha Mahabhootas*) which are *Prithvi, Ap, Teja, Vayu* and *Akasha*. The ingested food nourishes *Panchabhuta* components and their respective tissues inside the body. *Ahara* not only helps to built up body but also provides disease resistance power. *Ahara* encompasses psychological as well as spiritual elements therefore provides mental stability and spiritual well being. *Ahara* gives nutritional support and acts as a medicine therefore considered one among the three sub-pillars (*Thrayo-Upasthamba*) of life. *Ahara* and *Vihara* mainly decides health of person and responsible for various pathological ailments. *Ahara* consisted of various *Rasa* and each *Rasa* hold specific biological and pathological effects inside the body. Considering importance of these all things present study was planned to ascertain effects of excess *Madhur & Katu Rasa Ahara* on animal model. Study observed health benefits with *Madhur Ahara* as compared to *Katu Ahara*.

Key-Words: *Ayurveda, Ahara, Katu, Madhur, Satmya.*

Introduction

The consumption of *Pathya* (wholesome) diet offers health benefits and contributed towards the constitution and strength of an individual. The *Apathya* (unwholesome) diet is responsible for adverse health effects. The ancient philosopher described *Pathya Ahara* and *Vihara* as major preventive and curative aspects of Ayurveda which helps to restore good health conditions. Ayurveda emphasizes some dietary guidelines as *Ashtavidha Ahara Vidhi Viseshha Ayatana* with respect to combinations of food articles, methods of cooking, storage conditions, appropriate time and place of meal, etc [1-4].

The major dietary suggestions as per Ayurveda are as follows:

- ✓ *Satmya Bhojana:* should consume food as per suitability.
- ✓ *Hita Bhojan:* food intake as per the *Prakruthi* of individual.
- ✓ *Suchi Bhojana:* Proper hygiene while preparing and eating food.
- ✓ *Sad-Rasayukta Ahara:* food should possess all six taste (*Rasa*) components.
- ✓ *Na Ati Druta Vilambita:* neither too slow nor too fast consumption of meal.
- ✓ *Dhauta Pada-Kara-Anana:* proper washing of hand & feet before meal.
- ✓ *Pithru -Deva Tarpana:* meal should be consumed after offering prayers to gods.
- ✓ *Anindan Bhunjaana:* Without disgracing one should eat food silently (*Moun*).

The *Ahara Matra* is very important so one should consume appropriate quantity of food; it is suggested to take *Snigdha*, *Ushna* and *Laghu Bhojan*. One should consume meal when there is sufficient hunger (*Kshudvan*). The *Samyoga* (combinations of food), *Desha* (place), *Kaala* (time) and *Okasatmya* (habitual homologation) of each individual should be taken in consideration while planning for dietary guideline. The dietary rules of ayurveda not only help to extract all nutrients of food articles but also provide all health benefits of food. The avoidance of dietary guideline may cause pathological events inside the body including metabolic disorders [3-6].

As per Ayurveda food consisted of six *Rasa* including ***Madhur Rasa* (sweet), *Amla Rasa* (sour), *Lavan Rasa* (salty), *Tikta Rasa* (bitter), *Katu Rasa* (pungent) and *Kashaya Rasa* (astringent)**. The balanced diet consisted of all six *Rasa* and imparts health benefits while inappropriate combinations of *Ahara Rasa* cause diseases. Amongst six different *Rasa*, *Madhur* and *Katu Rasa* play vital role towards the biological effects of *Ahara*.

Madhur Rasa Ahara offer sweet taste and it is made from the earth & water elements. This flavor is responsible for calm and compassion, cooling in nature, gives nourishment to the tissues, improves complexion, gives instant energy, strengthens sense organs, enhance immune system and alleviate *Vata* & *Pitta*. **Foods** like milk, *Ghee*, banana, coconut, cucumber, wheat and almonds, etc. **Medicinal plants** such as *Yashtimadhu*, *Shatavari* and *Bala*, etc. are possess *Madhur Rasa*. Excess intake of sweet food may leads heaviness and lethargy. It suppresses functioning of *Agni*, increases congestion and may causes diseases like obesity and diabetes, etc.

Katu Rasa means pungent taste mainly found in spicy foods, this *Rasa* is made by fire and air elements. ***Katu Rasa*** enhances flavor of food, warms up body, clear nasal and throat passage. It alleviates *Kapha*, increases circulation, improves sweating, clears toxins, purifies blood, reduces cholesterol and clears channels of body. **Foods** such as garlic, onions, chilies, mustard seeds, spinach, ginger and black pepper, etc. possess *Katu Rasa*. **Medicinal plants** like fennel, *Pippali* and *Adraka*, etc. are possess *Katu Rasa*. Excess consumption of *Katu Rasa* may cause hyper functioning of digestive fire and dryness in body [6-11].

Aim & Objective:

- ❖ To study the effect of excess use of *Madhur* & *Katu Rasa* in animal model.

Material & Method:

Albino wistar rats of weighing 180±15g were selected and procured from PBRI animal house. The animals were maintained under standard conditions of humidity,

temperature (25 ± 2 °C) and light (12 h light/dark). They were fed with standard rat pellet diet and water *ad libitum*.

Animals were divided into two groups, 03 animals in each group. Animals of assigned *Madhur Rasa* group put on diet predominant to *Madhur Rasa* while animals of assigned *Katu Rasa* group put on diet predominant to *Katu Rasa*.

Assessment Parameters:

The effect of excess uses of *Madhur* & *Katu Rasa* assessed on the basis of following parameters:

- ❖ Weight gain capacity
- ❖ Alertness (response to stimuli)
- ❖ Improvement in diets

Grading of assessment of parameters:

- ✚ Weight gain capacity measures as change in body weight from start of treatment to end of therapy.
- ✚ Improvement in diet measure as increase in daily dietary intake (g/day).
- ✚ Alertness was assessed as respond to stimuli as follows:

1. Agitated response of animal	06
2. Responds readily to normal voice tone	05
3. Lethargic response to normal voice tone	04
4. Responds only after loud tone	03
5. Responds only after mild prodding or shaking	02
6. Does not respond to mild prodding shaking	01
7. Does not respond to deep stimulus	00

Study Protocol:

Animals were feed with *Madhur* and *Katu Ahara* for period of six month then evaluated for assessment parameters.

Results:

Weight gain capacity

Study observed marked improvement in weight gain capacity in animals of *Madhur Rasa* group after complete duration of study. The average weight gain in this group was observed more than 15 %. The animals feed with *Katu Rasa Ahara* not showed improvement in body weight (**Table 1**).

Table 1: Improvement in weight after *Madhur Rasa* and *Katu Rasa Ahara*

S. No. (n=3)	<i>Madhur Rasa group</i>		<i>Katu Rasa group</i>	
	Initial weight at start of study (g)	Final weight after completion of study (g)	Initial weight at start of study(g)	Final weight after completion of study(g)
1	174	201	185	195
2	167	205	190	201
3	185	210	187	200

Alertness (response to stimuli)

Animals of *Madhur Rasa* group exhibited appreciable grading score while animals of *Katu Rasa Ahara* not showed good result in this category since lethargic response observed against external stimuli by animals of this group (**Table 2**).

Table 2: Alertness (response to stimuli) after *Madhur Rasa* and *Katu Rasa Ahara*

S. No. (n=3)	<i>Madhur Rasa group</i>		<i>Katu Rasa group</i>	
	Initial grading score at start of study	Final grading score after completion of study	Initial grading score at start of study	Final grading score after completion of study
1	02	05	03	04
2	02	04	02	02
3	03	06	02	03

Improvement in Diet

The improvement in dietary intake was recorded as change in daily dietary intake in gm/day. Improvement in dietary intake was observed with Animals of *Madhur Rasa* group while other group not showed good response for this parameter (**Table 3**).

Table 3: Food consumption (gm/animal)

S. No. (n=3)	<i>Madhur Rasa group</i>		<i>Katu Rasa group</i>	
	Food consumption (gm/animal) at start of study	Food consumption (gm/animal) after completion of study	Food consumption (gm/animal) at start of study	Food consumption (gm/animal) after completion of study
1	14.2	17.5	15.9	16.6
2	14	17.2	14.8	15.5
3	14.5	18	14.4	14.7

Discussion

Study observed marked improvement in weight gain capacity in animals of *Madhur Rasa* group after complete duration of study. This effect can be attributed to the heaviness of *Madhur Rasa Ahara*. *Madhur Ahara* gives nourishment to the tissues which contributed towards the average weight gain in animal of *Madhur Rasa Ahara*.

Animals of *Madhur Rasa* group exhibited appreciable grading score in alertness study since *Madhur Rasa* provides nourishment to the body thus improves overall nerve functioning and reflex response.

Improvement in dietary intake was observed with Animals of *Madhur Rasa* group since pleasant nature of *Madhur Rasa* improves diets and suppress symptoms of anorexia therefore improvement in body weight as well as daily dietary intake was observed in animal of *Madhur Rasa* group.

Conclusion

Ahara acts as *Ausadha* and one should consume *Ahara* according to *Gunas*, *Satmya* and *Kala*, etc. *Ahara Vidhi Vidhana* is responsible for maintaining health at the somatic as well as psychic and spiritual level. *Ahara* should be consumed as per the *Agni Bala* of individual thus different person requires different types of *Ahara*. Considering these all things this study was planned to ascertain effects of *Madhur & Katu Rasa Ahara* on animal model. Study observed health benefits with *Ahara* predominant to *Madhur Rasa* as compared to *Ahara* predominant to *Katu Rasa*. *Madhur Rasa* contributed towards the body built up, alertness in body and good daily dietary intake which is requires fulfilling nutritional requirement of individual. Study concluded that one should consume balance diet which must contain all *Rasa* but presence of *Madhur Rasa* is prerequisite.

References

1. P.K Sharma, Bhagwan Das, charak samhita (English translation), Chaukhamba Sanskrit series, Varanasi 221001, 6th edition, 2003.
2. Dr. Brahmanand Tripathi, charak samhita, Vol 1, Vol 2, Chaukhamba Surbharti Prakashan, Varanasi reprint 2011.
3. P.V Sharma, Sushrut Samhita, Vol 1, Vol 2, Chaukhamba Visvabharti, Varanasi, 2005.
4. Pt. Hari Sadashiva Shastri Paradakara, Ashtanga Hridayam Commentary by Arunadutta & Hemadri, Chaukhambha Surbharati Prakashan, Varanasi, Reprint 2002.
5. Raja Radhakanta Devam, Sabda kalpa druma, Chaukhamba publications , Varanasi, 2006
6. C. C. Chatterjee, Human physiology, published by Medical Allied Agency, Calcutta, 1994. 13. Taber's Cyclopedic Medical Dictionary, Jaypee Brothers, New Delhi, 2006.
7. Han CS, Dingemanse NJ. Effect of diet on the structure of animal personality. *Front Zool.* 2015;12(Suppl 1):S5.

8. Anna Wilkanowska, Dariusz Kokoszyński, Chapter 14 - Effect of Diet and Physical Activity of Farm Animals on their Health and Reproductive Performance, Academic Press, 2015, Pages 159-171.
9. David H. Baker, Animal Models in Nutrition Research, *The Journal of Nutrition*, Volume 138, Issue 2, February 2008, Pages 391–396.
10. Acharya Charaka, Charaka Samhita, Sutrasthana 26th chapter, Shloka No-49-51, Charaka Chandrika Hindi commentary of Agnivesha, edited by Dr.Bramhananda Tripathi, Volume 1, Chaukhamha Surabharati Prakashana, Varanasi, Reprint 2002, Page No- 486.
11. Acharya Charaka, Charaka Samhita, Sutrasthana 26th chapter, Shloka No-43/3, Charaka Chandrika Hindi commentary of Agnivesha, edited by Dr.Bramhananda Tripathi, Volume 1, Chaukhamha Surabharati Prakashana, Varanasi, Reprint 2002, Page No- 483.