

DIGESTIVE PHYSIOLOGY IN AYURVEDA: ROLE OF AHARA PARINAMAKARA  
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## ABSTRACT

In *Ayurveda*, *Ahara* (food) is revered not only as sustenance but as *Mahabhaishajya* - the supreme medicine. The concept of *Ahara Parinamkara Bhava* delineates the physiological factors responsible for the transformation of ingested food into bodily nutrients and energy. This process is governed by six key factors: *Ushma*, *Vayu*, *Kleda*, *Sneha*, *Kala* and *Samyoga*. These elements work synergistically to ensure effective digestion, absorption, and tissue nourishment. Furthermore, *Ahara Vidhi Visheshayatan*, the eightfold dietary considerations, including *Prakriti*, *Karana*, *Samyoga*, *Rashi*, *Desha*, *Kala*, *Upyoga sanstha* and *Upyokta*, are crucial in modulating these factors. A thorough understanding of these principles, interpreted through classical Ayurvedic doctrines and viewed through a modern physiological lens, not only highlights the intricate correlation between diet and health but also emphasizes the preventive and therapeutic roles of diet in modern lifestyle disorders.

**KEYWORDS:** *Ahara*, *Parinamkara Bhava*, Digestion, *Ushma*, *Vayu*, *Kleda*, *Sneha*, *Kala*, *Samyoga*, *Ahara Vidhi Visheshayatan*, diet.

## INTRODUCTION

**Ahara**

The word *Ahara* is derived from the root 'हृज् हरणे' which means 'to be taken in', so whatever we are consuming through our mouth, it is called as *Ahara*.

आह्रियते उपश्रियते शरीरमनेनेति आहारः। (Shabdastom mahanidhi)

Every living being, moment by moment, undergoes a natural depletion of physical elements due to daily activities and natural processes. To make up for this loss, they require nourishment. The substance that replenishes this loss is known as '*Ahara*'.

**Parinama:** The process of digestion (and metabolism) of the ingested food is called as *parinama*.

**Bhava:** The factors present in the body are called as *bhava*.

Thus, the factors present in the body which are responsible for the digestion and metabolism of the ingested food are collectively called as *Ahara parinamkara bhava*.

## AIM AND OBJECTIVE

1. To identify and describe the six *Ahara Parinamkara Bhavas* from Ayurvedic texts and to correlate these *Bhavas* with contemporary physiological mechanisms involved in digestion and metabolism.
2. To analyze the role of *Ahara Vidhi Visheshayatan* (dietary guidelines) in supporting and enhancing these physiological processes.

## MATERIAL AND METHOD

A comprehensive review of classical Ayurvedic texts and modern physiological literature was conducted to analyze and correlate the six *Ahara Parinamkara Bhavas* with contemporary digestive functions.

**Ahara parinamkara bhava**

*Ahara Parinamkara Bhavas* in the body assist in the digestion of food and its transformation into bodily components for assimilation. The ingested *Panchabhautik* food is bio-transformed into body tissues. When food possesses qualities that support bodily functions, it effectively nourishes and replenishes them. The digestion is mainly done by *agni*, and assisted by other factors which are collectively called as *ahara parinamkara bhava*. Such factors are six in numbers, they are: *Ushma*, *Vayu*, *Kleda*, *Sneha*, *Kala* and *Samyoga*.

## आहारपरिणामकरास्त्वमे भावा भवन्ति । तद्यथा- ऊष्मा, वायुः, क्लेदः, स्नेहः, काल, समययोगश्चेति

(Ch.Sha.6/14)

### Ushma (Heat factor)

*Ushma* (heat) is parallel to *agni* (fire). "*Ushmapachti*" means, just as the flames of fire boil rice raw grains, this *ushma* digests ingested food.

This *Agni* is considered to be of thirteen types viz., *Jatharagni*, *Sapta Dhatwagni*, and *Pancha Bhutagni* as the process of digestion (*Pachan Kriya*) occurs at these levels consecutively. *Pachak Pitta* is present throughout the *Mahastrotas*, from the mouth to the anus, with its primary location being between the *Amashaya* (stomach) and *Grahani* (duodenum).

Food nourishes the body's depleted *dhatu*s, but food cannot nourish the body's *dhatu*s in the same form in which it is consumed. Food gets digested by heat or fire and gets converted into *dhatu*s like *rasa*, *rakta* etc. and nourishes the depleted *dhatu*s. *Ushma*, essentially refers to the various digestive enzymes secreted along with digestive juices, as well as the temperature of the specific site where digestion occurs, both of which should be considered together, as they are essential for digesting different types of food.

From the perspective of modern physiology, various digestive secretions such as gastric juice, pancreatic and bile secretions, and intestinal fluids, contain numerous enzymes and coenzymes essential for digestion. These can collectively be considered as representing "heat." Additionally, organs like the stomach require a specific temperature for optimal enzymatic activity, as each enzyme functions effectively only within a certain temperature range. If this temperature is not maintained, proper digestion cannot occur.

## आमाशयस्थितोऽन्नसङ्घातस्य क्लेदनात्क्लेदकः।

Here, it is to be understood as the *jala bhaga* (watery component) present in the body specifically the *Kledaka Kapha* located in the *amashaya* (stomach), which acts on the food bolus (*annasanghata*), as well as the *Bodhaka Kapha* situated in the oral cavity.

The process of digestion begins in the mouth, where food is softened and moistened by chewing and the action of *Bodhaka Kapha* and saliva (*Lala Rasa*). This prepares the food for further digestion. Once swallowed, the food reaches the stomach, where *Kledaka Kapha* further moistens and loosens it. This allows digestive enzymes and bile to act effectively, breaking the food down into finer particles and facilitating smooth digestion.

### Sneha (Unctuous factor)

"*Sneho mardhavam janayati*", the unctuous (oily) factor softens the food ingredients, allowing digestive enzymes to act more effectively. In this context, softness can be understood as lubrication.

### Vayu (Nervous mechanism)

*Vayu* propels food to the next organ. "*Vayurapakarshati*" means that *Vayu* transports food to the site of *Agni* to facilitate digestion. As the controller of all bodily functions, *Vayu* is responsible for transporting food, promoting its transformation, and stimulating the secretion of digestive juices. *Acharya Chakrapani* states that bringing food near the digestive fire and kindling that fire are the actions performed by *vayu*.

Here, *Vayu* is to be understood in terms of *Prana*, *Samana*, and *Apana Vayu* based on their specific functions (*Vishesh Karma*). The entry of food into the stomach is governed by *Prana Vayu*, stimulation of *Agni* and separation of *Sara* and *Kitta* are managed by *Samana Vayu*, and the timely expulsion of *Kitta* (*Mutra* and *Purisha*) is the function of *Apana Vayu*.

In modern science, this is viewed as peristaltic movements and stimulation of the autonomic nervous system, which lead to the secretion of digestive juices in different parts of the alimentary canal.

### Kleda (Hydrolyzing factor)

"*Kledaha shaithilyamapadayati*" means *kleda* disintegrates (hydrolyzes) the globules of food ingredients into droplets i.e., food is broken down by *Kledatva*, making it easier to digest.

(A.S.Su.20/6)

The *Snigdhasa* (unctuous component) of the body helps maintain internal moisture and supports the elimination of wastes (*malasanga nasha*). According to *Maharshi Charaka*, consuming *snigdha* food ignites the digestive fire (*agni*) in the stomach, enhancing the digestion process. Just as external fire is sustained or intensified by adding oil or ghee, similarly, internal *agni* is strengthened by food substances containing *sneha*.

According to modern science, when we consume unctuous food, bile is secreted, and its primary function is to emulsify fats, thereby aiding in the digestion and absorption of food.

### Kala (Time factor)

"*kalaha paryaptimbhinirvartayati*" means that proper digestion occurs only when adequate time is allowed. Here, *kala* refers to the time required for digestion, which is indicated by the return of hunger. It is advised

to eat only after the previously consumed food has been fully digested. Eating before this can lead to indigestion, as the new and old food may not be properly digested, resulting in the aggravation of the *doshas*.

कालेभुक्तं समं सम्यक् पचत्यायुर्विवृद्धये ।

(Ch.Chi.15/7)

According to modern opinion, proper digestion of food requires 3 to 6 hours, depending on the type of food

*Acharya Charaka* emphasizes the importance of eating food at the appropriate time. He states that food consumed within a proper time frame keeps the digestive fire (*agni*) active, ensures proper digestion, and promotes longevity.

consumed. Even in the presence of all other factors, digestion requires time for completion.

**Samyoga (Appropriate combination)**

समयोगस्त्वेषां परिणामधातुसाम्यकरः संपद्यते ।

(Ch.Sha.6/15)

*Samayoga* (proper combination and proportion of food) helps in the balanced formation of digested *Rasadi dhatus*. When food is taken in appropriate quantity and proportion, it leads to the proper nourishment of all seven *dhatus*, thereby maintaining health. However, if food is not taken in the correct proportion, it can lead to indigestion, which becomes the root cause of many diseases.

*ahara vidhi visheshayatan*. Thereby, *Acharya Chakrapani* has included *astha ahara vidhi visheshayatan* under *samyoga*.

**Astha Ahara vidhi visheshayatan**

For intake of *ahara* or food, *Ayurveda* has enlisted some special conditions which need to be followed to obtain complete benefits of the food. They are called as *Ahara Vidhi Visheshayatan*.

For the appropriate administration of food, one has to follow all the rules explained in *ahara vidhividhana* and

खल्विमान्यष्टावाहारविधिविशेषायतनानि भवन्ति, तद्यथा प्रकृतिकरणसंयोगराशिदेश-  
कालोपयोगसंस्थोपयोक्तृष्टमानि (भवन्ति)।

(Ch.Vi.1/21)

According to *Acharya Charaka*, there are eight specific factors of method of dieting such as-

1. *Prakriti* - Nature/quality of food
2. *Karana* - Processing of food
3. *Samyoga* - Combination of substances

4. *Rashi* - Quantity of food stuff
5. *Desha* - Habitat of food
6. *Kala* - Time of intake of food
7. *Upyoga sanstha* - Rules of taking food
8. *Upyokta* - The person who consumes the food

**Prakriti (Nature of the food)**

तत्र प्रकृतिरुच्यते स्वभावो यः

(Ch.Vi.1/21-1)

*Prakriti* means natural quality which is inborn.

Here *Prakriti* denotes the natural quality of the food (and medicines) like *Guru* (heavy), *Laghu* (light) etc. *Masha* or black gram is said to be *guru* in nature, therefore it is heavy to digest. Similarly, *Mudga* or green gram is *laghu* in nature; therefore it is light and easy to digest. Knowing the nature of the food or medicine will help in choosing the food according to our digestion capacity and also to eat the food substances which are easily digestible and hence conducive to our health.

**Karana (Methods of processing the food)**

*Karana* refers to the processing of food substances that leads to the transformation of their inherent qualities and characteristics, making them suitable and beneficial for consumption. This transformation is known as *Samskara*, which results in *Gunantaradhana*, or the alteration of the food's properties.

Various methods are employed in this process, including *Toya Sannikarsha* (cleansing and treating with water), *Agni Sannikarsha* (heat application such as boiling or cooking), and *Shaucha* (cleaning and washing). Mechanical methods like *Manthana* (churning or grinding) also contribute to transformation. Factors such as *Desha* (geographical location), *Kala* (time or season), and *Kala Prakarsha* (passage of time or seasonal changes) further influence the nature of food. Additional techniques include *Vasana* (adding flavors or preservatives), *Bhavana* (impregnating or processing food with specific liquids), and *Bhajana* (using particular containers or vessels for storage and preservation). Together, these methods ensure the enhancement of food's quality, safety, and palatability.

**Sanyoga (Combination of food substances)**

*Sanyoga* refers to the combination or mixing of two or more substances, where the resulting mixture acquires qualities different from those of the individual components. New properties may emerge that were not present in the original substances. Such combinations

can be either beneficial or harmful, making it essential to understand both the individual properties and the effects of their union. For example, mixing honey and ghee in equal parts or consuming fish with milk can be harmful and even dangerous to health.

**Rashi (Quantity of food)**

राशिस्तु सर्वग्रहपरिग्रहौ मात्रामात्रफलविनिश्चयार्थः।

(Ch.Vi.1/21-4)

*Rashi* refers to the quantity of food consumed, which is vital for maintaining good health. Each individual has a specific food requirement, and both overeating and undereating can be harmful. Food should be consumed in the right amount, suited to one's capacity and energy needs.

There are two types of *Rashi*: *Sarvagraha Rashi*, which considers the total quantity of all food items together, and *Parigraha Rashi*, which considers the quantity of each item separately. For example, eating all items served is *sarvagraha*, while selectively consuming a few in specific amounts is *parigraha*. Understanding and following the appropriate *rashi*, based on individual needs and preferences, is essential for balanced nutrition and overall well-being.

**Desha (Habitat of food)**

'*Desha punah sthanam*', *Desha* covers the place where the food (or medicinal herbs) is grown, place to which they are exported, the place where they are utilized.

There are three types of *Desha*: *Jangala* (dry/desert regions, Vata-predominant),

*Anupa* (marshy areas, Kapha-predominant), and *Sadharana* (moderate zones). Foods from *Jangala desha* are light and tend to aggravate *vata*, making them unsuitable for individuals with *vata* constitution or disorders, but beneficial for those with *kapha* imbalances. However, such foods may still suit natives of *jangala* regions due to habitual adaptation. Understanding the nature of the region and its influence on food is essential for appropriate dietary choices.

**Kala (Time of consumption of food)**

*Kala* refers to the time factor in food consumption, which plays a crucial role in maintaining health. It is of two types: *Nityaga Kala* (daily and seasonal time) and *Avasthika Kala* (situational or conditional time). *Nityaga Kala* includes daily meal timings, ideally twice a day and seasonal dietary guidelines as explained in *Ritucharya*. *Avasthika Kala* considers the individual's age and health condition. Diet should be adapted according to life stages, *Bala* (childhood/youth), *Madhyama* (middle age), and *Vardhakya* (old age) as well as during illness, to aid recovery and ensure appropriate nourishment.

**Upayoga Samstha (Rules and regulations for consuming food)**

*Upayoga Samstha* refers to the essential dietary rules that support proper food intake, guided by the signs of good digestion (*Jeerna Ahara Lakshanas*). These principles are applicable to both healthy and diseased individuals and emphasize eating wholesome food in the right quantity.

The key rules include eating food that is hot and fresh (*Ushnam Ashneeyat*) and well-lubricated or unctuous (*Snigdham Ashneeyat*). One should consume food in appropriate quantity (*Matravat Ashneeyat*) and only after the previous meal has been properly digested (*Jeerne Ashneeyat*). It is important to avoid combinations with opposing potencies (*Veerya Aviruddham Ashneeyat*), and to eat in a clean, comfortable environment with suitable utensils (*Ishta Deshe, Ishta Upakaranam*). Meals should neither be rushed (*Na Ati Dhrutam*) nor excessively delayed (*Na Ati Vilambitam*). Additionally, one should eat silently, with focus and without distractions such as talking or laughing (*Ajalpan, Ahasan, Tanmanaa Bhunjeeta*), and always with self-awareness, assessing one's readiness to eat (*Atmanam Abhisameekshya Bhunjeeta*). Following these rules helps ensure proper digestion and supports overall health.

**Upabhokta/Upayokta (The person who consumes food)**

*Upabhokta* refers to the consumer, the person who eats the food and holds a central role in the process of nourishment. As the one who habitually consumes food, the *Upabhokta* is responsible for developing and maintaining dietary habits, known as *Okasatmya*, which means adapting to a regular and suitable intake of food. This includes eating at the right times, and in proper quality and quantity. Establishing these habits ensures optimal digestion and supports long-term health.

**SIGNIFICANCE OF AHARA PARINAMKAR BHAVA**

The aim of *Ayurveda* is maintaining the health of healthy person and curing the diseased one, which is achieved by *Ahara*. *Acharya Kashyapa* says that *Ahara* is *Mahabhaishajya* i.e., a best medicine. *Ahara Parinamakara Bhava* and *Aharvidhi-Visheshayatan* both are responsible for the process of transformation of ingested food into absorbable form which can be absorbed by all tissues of the body.



Digestion plays a crucial role in enhancing immunity. In the modern era, characterized by a fast-paced lifestyle and stress, people often neglect proper dietary habits. This leads to a rise in lifestyle disorders like diabetes mellitus, obesity, and gastrointestinal conditions. *Ayurveda* posits that digestive disturbances are the root cause of most diseases. Therefore, understanding and applying the principles of *Ahara Parinamakara Bhava* and *Ahara Vidhi-Visheshayatan* is vital for effective digestion (*Pachana Kriya*) and transformation of *Panchabhautik Ahara* into bodily tissues. *Ahara* is thus the foundation of longevity, complexion, strength, nourishment, and immunity.

## DISCUSSION

The physiological understanding of *Ahara Parinamakara Bhavas* offers a profound integration of Ayurvedic principles with modern scientific knowledge of digestion and metabolism. The six fundamental factors - *Ushma*, *Vayu*, *Kleda*, *Sneha*, *Kala*, and *Samyoga*, comprehensively describe the intricate process of food transformation from ingestion to assimilation.

- *Ushma*, representing digestive fire, aligns closely with the concept of enzymatic and thermal activities necessary for biochemical reactions in the gastrointestinal tract. It includes the collective action of gastric acid, bile, pancreatic juice, and intestinal enzymes.
- *Vayu*, particularly in its subtypes (*Prana*, *Samana*, *Apana*), mirrors the role of nervous regulation and peristaltic movements. This reflects the autonomic nervous system's control over food propulsion, secretion of digestive fluids, and excretion of waste.
- *Kleda* and *Sneha*, interpreted as moistening and lubricating factors, correspond to the role of mucosal secretions, bile, and other digestive fluids that hydrolyze food and enable enzymatic activity.
- *Kala*, or time, has dual relevance: both the chronobiological rhythm of digestive activity and the duration of digestion, emphasizing the importance of meal timing and intervals for effective digestion.
- *Samyoga*, the appropriate combination and proportion of food, anticipates the modern concept of nutrient synergy and the consequences of incompatible food combinations, which can lead to indigestion or toxin production.

The additional elaboration on *Ahara Vidhi Visheshayatan* (eightfold dietary considerations) enriches the concept by emphasizing factors like food quality, quantity, timing, processing, and individual constitution, all of which are increasingly recognized in modern nutritional science and personalized medicine.

Notably, the principles underscore the preventive and curative roles of diet, which have critical implications for lifestyle disorders such as obesity, diabetes, and gastrointestinal diseases, conditions that are often rooted in dietary mismanagement.

## CONCLUSION

The study of *Ahara Parinamakara Bhava* reinforces the holistic Ayurvedic understanding that food is not only sustenance but also a central therapeutic tool. Each of the six *parinamakara bhavas* plays a distinct yet integrated role in ensuring the proper digestion, absorption, and nourishment of body tissues.

When these principles are viewed through the lens of modern physiology, they align closely with scientific explanations of enzymatic activity, neuroregulation, biochemical interactions, and chrononutrition. The *Ahara Vidhi Visheshayatan* further enhances this framework by guiding the practical application of dietary habits, tailored to the individual's constitution, environment, and health condition.

Given the rise in metabolic and digestive disorders due to erratic lifestyle and poor dietary habits, these classical Ayurvedic insights are not only scientifically relevant but also vital for contemporary health promotion and disease prevention. A clear understanding and implementation of these principles can aid in maintaining physiological balance, enhancing immunity, and improving overall well-being.

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