



Review Article

IMPORTANCE OF TRIVIDH KUKSHIYA MATRAVAT AAHARA IN RELATION TO DIGESTION OF THE FOOD

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ABSTRACT

According to Ayurveda food is one of the significant factors for health as well as source for diseases i.e., wholesome food is responsible for pleasure and unwholesome food is responsible for unhappiness. Alongside the quality of food, the quantity of food is also a lot of significant that how it is taken, on the grounds that food taken in ill-advised manner can prompt various diseases. Digestion of food is considered as one of the most important physiologic processes in our body to be of prime significance in conserving health. A nutritious eating regimen won't have the most extreme effect in promoting health unless the digestive capacity is optimal. Balanced *Agni* (digestive fire) is basic for appropriate digestion of food, for this reason the idea of *Matravat ahara* ought to be considered as portrayed in *Trividhkukshiya viman adhyay*. For proper digestion of food, it should be consumed in appropriate quantity as described in *Trividh kukshiya adhyaya*, where it is specifying that, stomach capacity is divided into 3 parts: One part of it is filled up with solid food, the second part with liquids and the third part is left for *Vata, Pitta* and *Kapha*. Thus, the good quality food taken in appropriate amount will nourish the tissue elements of the body along with mind and senses only when it is properly digested. This article aimed to signify importance of *Trividh kukshiya matravata ahara* for proper digestion.

INTRODUCTION

In Ayurveda, optimal digestion is considered to be of prime significance in conserving health. A nutritious eating regimen won't have the most extreme effect in promoting health unless the digestive capacity is optimal. Balanced *Agni* (digestive fire) is basic for appropriate digestion of food, for this reason the idea of *Matravat ahara* ought to be considered as portrayed in *Trividhkukshiya viman adhyay*.

Diets and drinks whose colour, smell, taste and touch are pleasing to the senses and conducive to the health, if taken in accordance with the rules described in *Aharvidhivisheshayatan* and *Trividhkukshiya viman adhyay*, in fact represent the very life of living beings. The effect of the use of such diets and drinks can be perceived directly.

Whenever consumed by rules, they give fuel to the fire of digestion; they endorse mental as well as physical strength, strength of tissue elements and complexion and they are satisfying to the senses [1].

Digestion of food is considered as one of the most important physiologic processes in our body. A few components assume a vital part in proper digestion and absorption such as mixing action of stomach and gastrointestinal motility, enzyme secretion and activity, proper mucosal function, favorable blood supply and normal microbiome[2]. For this purpose, to be achieved, the stomach capacity is divided into 3 parts: one is solid food, second one is liquid and third one for *Vata, Pitta* and *Kapha*. [3].

Consequently, any defect in these factors can affect the absorption of nutrients which may result in development of a wide range of disorders such as neurologic dysfunctions, skin diseases, respiratory diseases and rheumatic disorders[4].

MATERIALS

The data from various articles, texts along with *Brihatrayee* has been collected, compiled and analyzed

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for the discussion and attempt has been made to draw some conclusions.

DISCUSSION

The digestion of food starts from the process of ingestion to the process of defecation. Throughout this process many physiological activities are carried out by our digestive system. The *Ahara parinamkar bhava* as depicted in *Charaka Samhita*, are the elements which are liable for digestion. These are *Ushma, Vayu, Kleda, Sneha, Kaal* and *Samayog*. The physiological exercises of stomach related framework are influenced by these 6 components which, when work appropriately are responsible for *Parinaman* or *Paripak* for example digestion of food and for these components to work suitably *Matravat arahar* is should have been consumed.

1. *Ushma*- Means *Agni, Trayodasha agni* i.e., *Pachak pitta, Panch mahabhutagni* and *Sapta dhatvagni*. Secretion of digestive enzymes and other substances liquefies, adjusts the pH and chemically breaks down the Food.
2. *Vayu*- Portrayal about *Vayu* given in texts gives clear thought regarding propelling movement of muscles of stomach which assists the food to be more in touch with gastric juice.
3. *Kleda* can be correlated with water intake during meal. According to modern researchers, water admission during meal assists with releasing the food appropriately and furthermore stimulates gastric discharges.
4. *Sneha* i.e., unctuousness is necessary for proper digestion. According to modern researches, hard food can't get digested appropriately; it required *Sneha* for proper digestion.
5. *Kala* can be related with *Jirne* (admission of food after digestion of previous food), *Nati-vilambita* (not exceptionally dormant) and *Natidruta* (not extremely fast) *Bhojana*. Because of admission of food before assimilation of past food and moderate admission of food, past food gets stirred up with the product of food taken afterward, which ultimately cause indigestion. About *Nati-druta bhojana*, legitimate chewing of food would guarantee appropriate blending and extricating of food in the buccal cavity. Nowadays people eat very urgently where they do not allow the food to get chewed properly. Proper blending of saliva isn't guaranteed which may likewise prompt hard food entering the stomach which doesn't get easily digested.
6. *Samayog*- Diet should be taken according to rules described in *Aaharvidhivisheshayatana* for proper digestion^[5].

In any event, when no food is available in the stomach, a little amount of liquid is released from the Pavlov's little stomach. The rate of flow of this fluid is

very slow; it is in general 1-1.5 cc. each hour from a little stomach of the moderate size. This secretion is a thick, viscid mucous fluid, and contains mucin flakes in such abundance at times that the whole will make a solid mass. The empty stomach secretes a juice contains enzymes like pepsin pepsinogen, rennet, lipase, nuclease, amylase and maltase which are accountable in generating hunger^[6]. There are two essential hormones associated with hunger signals: ghrelin and leptin. At the point when you haven't eaten for quite a while, the stomach produces ghrelin, which expands hunger, gastric motility and gastric acid secretion. Ghrelin levels are highest right before meals, when blood sugar is low and stomach is empty. On the other hand, when you've eaten enough, fat cells secrete leptin, which interacts with the brain to indicate that you have enough calories in storage, and it is therefore time to inhibit hunger signals^[7]. Leptin is a hormone secreted by adipocytes and leptin has major role in the body weight regulation by maintaining a balance between food intake and expenditure of energy. Leptin is neurotransmitter expressed in brain. This neurotransmitter signals to the brain primarily in the hypothalamus that when a person stops to eat for keeping up with Body Mass Index^[8]. This shows that *Aahara* taken according to *Trivida kukshi* is helpful in regulating leptin hormone which is important in maintaining BMI, thus prevent diseases like indigestion, obesity, hyperlipidemia and heart diseases. Our Acharyas must have an insight of this mechanism of hormonal regulation that's why they explain the phenomenon of *Trividh kukshiya*.

The process of gastric secretion can be can be isolated into three stages cephalic, gastric, and gastrointestinal stage. The stomach assumes a basic part in the beginning phases of food absorption. Asides from pressing and stirring the food bolus, it additionally secretes a combination of mixtures, all things considered known as "gastric juice." The gastric mucosa secretes 1.2 to 1.5 liters of gastric juice per day. Gastric juice includes water, mucus, hydrochloric acid, pepsin, and intrinsic factor. Of these five parts, pepsin is the primary enzyme associated with protein assimilation. It separates proteins into more modest peptides and amino acids that can be easily absorbed in the small intestine. Explicit cells inside the gastric covering, known as chief cells, discharge pepsin in an inert structure, or zymogen structure, called pepsinogen. Thusly, the stomach forestalls the auto-digestion of defensive proteins in the covering of the gastrointestinal system. Since chief cells discharge pepsin as a zymogen, initiation by an acidic climate is significant. Hydrochloric acid (HCl), another component of the gastric juice, plays a crucial role in creating the pH required for pepsin activity. Parietal cells produce HCl by discharging hydrogen and chloride ions. At the point when pepsinogen and

hydrochloric acid exist together in the gastric juice, pepsin takes its dynamic structure^[9]. Gastric juice renders food particles dissolvable, begins digestion (particularly of proteins), and converts the gastric substance to a semi-liquid mass called chyme, as such setting it up for extra preparing in the small intestine.

As noted above, the stomach walls are protected from digestive juices by the membrane on the surface of the

epithelial cells bordering the lumen of the stomach; this membrane has enormous lipoproteins, these lipoproteins are resistant to attack of acid. The gastric juice of certain warm blooded animals (e.g., calves) contains the compound rennin, which clusters milk proteins and consequently removes them from arrangement and makes them more vulnerable to the activity of a proteolytic enzymes.^[10]

Table 1: Signs of intake of food in proper quantity^[3]

<i>Kukserapranidanamaharena</i>	There is no under pressure on the stomach due to the food taken.
<i>Hridayasyanavarodhah</i>	There is no obstruction to the proper functioning of the heart.
<i>Parsvayora Vipaṭanam</i>	There should not be any pressure in the sides of the chest.
<i>Anati Gauravamudarasya</i>	There should not be excessive heaviness in the abdomen.
<i>Prinanamindriyanam</i>	There is proper nourishment of the senses.
<i>Ksutpipasoparamah</i>	There is relief from hunger and thirst.
<i>Sthanasanasayanagamocchvasa Prasvasahasyasankathasu Sukhanuvṛttiḥ</i>	There is the feeling of comfort in standing, sitting, sleeping, walking, exhaling, inhaling, laughing and talking.
<i>Sayam Pratasca Sukhena Pariṇamanam</i>	Food taken in the morning should get digested by the evening and the food taken during the evening should get digested by the next morning.
<i>Balavarṇopacayakaravam Ca</i>	There is promotion of strength, complexion and plumpness.

Improper quantity of food is again of 2 types-deficient in quantity and excessive in quantity

Table 2: Food deficient in quantity will produce the following symptoms^[3]

<i>Bala Varṇopacaya Kṣayakaram Aṭṛptikaram</i>	Impairment of the strength, complexion and plumpness
<i>Udavartakaram</i>	Distension and absence of downward movement of food in stomach and intestines
<i>Anayusya Vṛṣyamanaujasyam</i>	Impairment of longevity, virility and <i>Ojas</i>
<i>Sarira Mano Buddhindriyopaghatakaram</i>	Affliction of body, mind, intellect and senses
<i>Sara Vidhamanamalakṣmyavahamasitesca</i>	Impairment of excellence of <i>Dhatus</i>
<i>Vatavikarāṇamayatanamacakṣate</i>	Causation of eighty varieties of <i>Vatika</i> diseases.

Food taken in over the top amount irritates all the 3 *Doshas*. One who tops off his stomach with strong food and afterward takes fluid food in exorbitant amount, all the 3 *Doshas*, viz. *Vata* (*Samana Vayu*), *Pitta* and *Kapha* living in the stomach get an excessive amount of compacted and all the while disturbed. The irritated *Doshas* influence the undigested food and get stirred up with it. Then, at that point they hinder a piece of the stomach and immediately travel through vertical and descending plots independently to create the accompanying sicknesses in the individual, taking food in overabundance:

Table 3: excess in quantity will produce the following symptoms:^[3]

Vata produces	Pitta produces	Kapha produces
<i>Shula</i> - Colic pain <i>Aanaha</i> - Constipation <i>Anga marda</i> - Malaise <i>Mukhasosa</i> - Dryness of mouth <i>Bhrama</i> - Fainting <i>Agnivaisamya</i> -Irregularity in the power of digestion, <i>Parsva prstha kaṭigraha</i> - Rigidity of sides, back and waist <i>Sirakuncana stambhanani karoti</i> - Contraction and hardening of vessels	<i>Jwara</i> - Fever <i>Atisara</i> - Diarrhea <i>Antar daha</i> - Burning sensation in body <i>Trushna</i> -Thirst <i>Mada</i> - Intoxication <i>Bhrama</i> - Fainting <i>Pralap</i> - Delirium	<i>Chardi</i> - Vomiting <i>arochaka</i> -Anorexia <i>Avipaka</i> - Indigestion <i>Shita jvara</i> - Cold fever <i>Aalasya</i> - Laziness and <i>Gatra gaurava</i> - Heaviness in the body.

The words 'indigestion' and 'dyspepsia' suggest some disturbance in the chemical process that food material undergo in the gastrointestinal tract. Indigestion often associated with other symptoms like epigastric discomfort or pain, frequently related to meals, anorexia, gaseous eructation, regurgitation, nausea and vomiting and sometime headache, palpitations and general nervousness and weakness. Indigestion caused due to disturbed gastric physiology or dysfunction of stomach or a disturbance of motor function of stomach and rarely due to the secretory function.

Distress or pain in the epigastrium is believed to be due to an increase in the tension of the stomach walls, which often occurs due to overeating that may be incident to spasm, especially of cardiac, pylorus or proximal duodenum to increased tone of its general musculature, to overfilling of organ or to variation in normal progression of its peristaltic waves. Eructation, regurgitation, nausea and vomiting even anorexia are also some kind, at time to an actual reversal of the peristaltic wave. Thus though indigestion may have many varied causes it apparently always in itself represents a localized motor disturbance of stomach^[11].

While describing Matra of food to be taken, Acharya Sushruta has preached that food which are difficult for digestion should be consumed to half of one's capacity of digestion while food which are easy for digestion, should be consumed to one's satisfaction (contentment); food which have more of fluid or fluid itself, there is no difficulty regarding their quantity that is to be consumed. Those foods which are dry, when consumed with more fluid get digested properly. When Pitta aggravating food is consumed or food stays for a long time in the alimentary tract or when food causing heartburn is consumed, in such condition the food does not undergo digestion properly. Food which are dry, incompatible, and causing constipation will bring about abnormalities of the digestive fire^[12].

CONCLUSION

As per Acharya charaka diet ought to be taken by separating the stomach limit into 3 sections: One piece of it is topped off with solid food, the second part with fluids to make *Kled* in stomach which is fundamental for proper digestion and the third part is left for *Vata*, *Pitta* and *Kapha*. *Vata* for the movement of food, *Pitta* produces *Ushma* for digestion of food, *Kapha* structures *Sneha* because hard food can't digest as expected. One who takes food with due respect to this standard, doesn't fall a casualty to food with unsafe impacts which emerge out of food taken in ill-advised amount.

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