

# ROLE OF KALAVAT BHOJAN IN DELAYING THE PROCESS OF AGING

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## ABSTRACT

*Aging is the natural process and characterised by wrinkles, gray hairs, slightly stooped posture etc. In present era due to busy and faulty lifestyle, signs of aging appears earlier. In Shabdakalpdrum the word Saundarya is defined as properly constructed and well defined body parts, which cannot be achieved without proper function of Agni. Proper function of Dosha and Dhatu primarily depends upon Agni, and as per Acharya Charak Agni is in the form of Pitta in our body. Prabha and Varna is the function of Avikrit Pitta and Agni. To keep Agni appropriately, timely intake of food is mandatory. In Charak Samhita, ahara is considered as a fuel for Agni. In Ayurveda classic, emphasis is more on the food principles among which preference had been given to Kalavat and Matravat bhojana. Present literary study is aimed to justify the relationship between Agni and establish the process of senility. For this purpose all Brihadtrayi and Laghutrayi of Ayurveda were referred and articles concerned with intermittent fasting published in index journals were collected. In this study my primary focus is on Kalavat bhojan and Agni. In this presentation focus will be given to Kalavat bhojan and intermittent fasting and its relation with the aging process.*

**Keywords:** kalavat bhojana, intermittent fast, saundrya, prabha

## INTRODUCTION :

Ageing is the process of becoming older. It represents the accumulation of changes in a human being overtime, encompassing physical, psychological, and social changes. It is a process that is genetically determined and environmental modulated. Though it is a natural process but it appears earlier than expecting due to some contributory factors. Lifestyle, diet, sleep pattern, Exercise, healthy foods are the some contributory factors which effect the aging process. Aging is characterized by wrinkled skin, grey hairs, slightly stooped posture, forgetfulness etc. In *Ayurvedajara* can be correlated with ageing. Meaning of the word *jara* means decrepitude, infirmity and general debility consequent on the old age. The word *jara* can be used as the meaning of digestion. Prevention and management of *jara* were always on prime consideration since ancient time that's why in *Charak Samhita Chikitsa sthana* is started with

*Rasayana adhyay*. In *Shabdakalpadruma* The word *Saundrya* is defined as properly constructed and well defined body part. *Saundrya* is the *Sanskrit* word and appropriate English word for *Saundrya* is beauty. According to oxford dictionary, beauty is "a combination of qualities, such as shape, colour, or form that pleases the aesthetic senses especially the sight. Because skin is the mirror of internal metabolism, all changes of aging appeared first on skin. While considering about prevention of early ageing, basic principal of *Dosh Agni*, and *Ahar* can not be excluded. *Ahar* is the one *stambha* among *trayopsambha*<sup>1</sup> (three pillars of body). Food keeps human being healthy and also can be cause of illness. So that there is many basic rules for *Ahara* consuming described in *Ayurveda* literature. *Kalavat bhojan* is one among them. *Kala* is the basic constituent of matter responsible for creation, existence and destruction of the whole universe.<sup>2</sup> *Kalavat bhojan* plays important role in keeping *Agni* in proper state. In *Ashtang hridayamandagni* is the cause of all

disease<sup>3</sup>. Today's lifestyle consists so many irregularities. Hence it is important to study the role of *Kalvat bhojan* in prevention of early aging.

**AIMS :**

This study is aimed to justify the relationship between Agni and establish the process of senility.

**OBJECTIVE :**

- 1 To understand the importance of *Kalvat bhojan* in prevention of early aging.
2. To understand the more topics related with *Kalvat bhojan* in different samhitas, such as *vishmashan*, *Anshan* etc.
3. To understand the good and bad effect of modern concept of *Kalvat bhojan* w.s.r. to intermittent fasting and meal skipping.

**MATERIAL AND METHOD :**

For achieving above said aims and objective all *Vrihadtrayi* and *Laghutrayi Samhitas* of *Ayurveda* has been referred and articles related to intermittent fasting, time meal and meal skipping of different index journals has been reviewed.

**DISCUSSION :**

The word *Kalvat bhojan* means –

1. Timely consumed meal
  2. Meal having the quality which has been written in different season in *Ritucharya*.
- 2 types of meal timing has been described in *sushrut samhita*
- a. *Ek kala bhojan*<sup>4</sup> – In *Hemant* and *Shishir Ritu* when nights are long and days are short a person should have meal in morning time in *Sapadayama* that means if sun rise will be considered at 6 am. Then one should have meal at 9.45 to 10.30 am.

In *Grushma* and *Varsha Ritu* when there is days are long and nights are short a person should have meal in *Apranha kala* (early evening). In *Dalhan Teeka* the word *Ardhtriteeyama* has been used for this *Kala* that means 2<sup>1/2</sup> prahar. For example if sun rises at 6 am morning then a person should have meal at 4.30 pm.

When both days and nights are equal a person should have meal at *Madhyanha Kala* that means if sun rises at 6 am. Morning then meal should be taken at 12pm.

- b. *Dwikala bhojan*<sup>5</sup> : in *Dwikala bhojan* 1<sup>st</sup> meal should be taken at 1<sup>1/4</sup> Prahara that means 9.45 to 10.30 am. And second meal should be taken at 3<sup>1/2</sup> Prahara that means 4.30 pm. If sun rise time is 6am.

*Dwikala bhojan* has been mentioned by *Bhav praksh* too. *Acharya Bhavprakash* has clearly mentioned that a person should take meal in morning and evening and nothing should be taken in between two meals.

*Trikala bhojan*<sup>6</sup> : *Trikala bhojan* also mentioned by *Bhav prakash* in such a way that meal should not be taken in between 1 *Yama* and meal should not be skipped after 2 *Yama*. In *Ratricharya*, 1<sup>st</sup> and last *Yama* of *Ratri* is indicated for *Veadaabhyas* and middle 2 *Yama* is for sleep. There is 3 hours in 1 *Yama*. So if sun rises in 6am morning then 1<sup>st</sup> meal should be taken between

There for if sun rises at 6 am. First meal should be taken between 9.45 am to 10.30 am. 2<sup>nd</sup> meal should be taken between 1.30 pm to 2.45 pm and third meal should be taken between 5.30pm to 6.45 pm. 7. In *Ashtang sangarash Sutra Sthan* 11 it is mentioned that *Ahara* and *andaushadh* take at least 4 *yama* to get digest. As per my opinion *Trikala Ahara* has been mentioned in *Samhitas* for *Deeptagni* and hardworking person. A person having moderate physical work should always Take *Dwikala Ahara*.

<i>Ek kala bhojan</i>	<i>Hemant and Shishir Ritu</i>	<i>Pratah kala</i>	9.45 to 10.30 am
	<i>Grishma And Pravrita Ritu</i>	<i>Apranha kala</i>	1.30 pm

	<i>Sharad and Vasant Ritu</i>	<i>Madhyanha kala</i>	12pm
<i>Dwikala bhojan</i>	<i>Pratham Bhojan</i>	9.45 to 10.30 Am.	
	<i>Dwitiya Bhojan</i>	After 4.30	
<i>Triakala bhojan</i>	<i>Pratham Bhojan</i>	Between 9.45 to 10.30 am.	
	<i>Dwitiya Bhojan</i>	Between 1.30 pm to 2.45 pm.	
	<i>Tritiya Bhojan</i>	Between 5.30 to 6.45pm	

Meal should not be taken in midnight due to predominance of tamaguna, but in vrindamadhav it is mentioned that food can be taken in midnight only there is excessive hunger. 8n bhavprakash it is said that hunger occurs when all doshas get digested.<sup>8</sup>

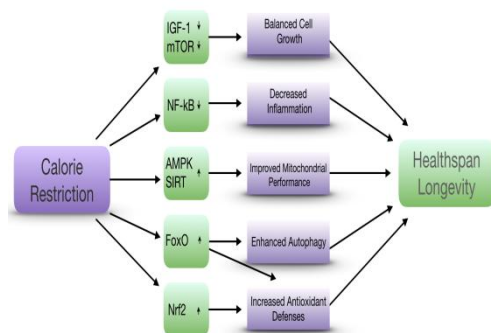
#### BENEFITS OF KALAVAT BHOJAN

*Ayurveda* review :In *Charak Samhita Sutra Sthana* it mentioned that properly consumed food plays a role as *samidha* for *antragni* and strength, health age, and *prana* all depends upon *agni* and person cosuming *hitahara* can live for 100 yrs<sup>9</sup>.In *SutraSthan 25* it is said that *Kalavat bhojana* is the best for heath<sup>10</sup>.In *SutraSthan 12* it is mentioned that all good and bad karma of pitta is depend upon the proper state of *agni*<sup>11</sup>. Good complexion (*varna*) lusture (*prabha*) is also one of the karma of prakrit pitta.

Morden Reviwe<sup>12</sup> : There is so many articles published on the topic of Intermittent fasting on different journals.Intermittent fasting or Intermittent energy restriction is an umbrella term for various meal timing schedules that cycle between voluntary fasting or reduce calories intake and non-fasting over a given period. Three methods of intermittent fasting are alternate day fasting, periodic fasting and time restricted feeding. It may be similar to calorie restricted diet. An article published on *Molecular cell* on 2018,where it is concluded that intermittent fasting can delays the aging of our arteris that could help prevent age related chronic diseases such as cancer, cardiovascular disease, and Alzheimer's. The most important part of aging is vascular aging.when people become older, the vessels that supply

different artery become sensitive and more subject to aging damage. In fasting or calorie restricted state body produces  $\beta$ -hydroxybutyrate ( $\beta$ -HB)which is a ketone that is produced by liver and used as an energy sources when glucose is not available. It prevents vascular senescence via cell quiescence and alleviate aging-related neurodegeneration .It promotes vascular cell quiescence, which significantly inhibits both stress induced premature sesnsence. In this study heterogeneous nuclear ribonucleoprotein A1 is identified as direct binding target of  $\beta$ -HB. When  $\beta$ -HB attaches to the hn1RNP A1, it boosts the activity of a stem cell transcriptional factor called Octamer- binding transcriptional4 (Oct)4 mRNA.Oct4 increases Lamin B1,a key factor againt DNA damage-induced senescence, which keeps the blood vessels young.

Some more responsible pathways are discussed in different articles are shown in picture<sup>13</sup> -



1. Cell proliferation : IGF-1 and mTOR
2. Inflammation :NF – kB
3. Mitochondrial physiology :AMPK/SIRT
- 4 Autophagy : FoXO
5. Antioxidants : Nrf2

1. Cell proliferation : IGF-1 and mTOR are nutrient sensor and responsible for cell proliferation. They regulate cellular resources depending on the availability of calories. In fasting low calorie leads to down regulation of IGF-1 and mTOR which signals for the cells and organelles to be recycled and repurposed.
2. Inflammation : fasting inhibits NF-kB which exerts an anti-inflammatory effect. NF-kB is master regulator of inflammation,so reducing its activity downregulates many parts of proinflammatory signaling.
3. Mitochondrial physiology :Aging decreases the destruction of damage /dysfunction mitochondria and the generation of new mitochondria.calorie restriction support both of these process by AMPK and Sirtuine pathway, a resulting in high quality mitochondrial function. AMPK or Activated protein kinase is a central regulation of cellular homeostatis. AMPK activated in some stresses like depleted ATP level,low calorie, hypoxia,ischemia etc.It promot signalling pathway that generate more ATP by Fatty acid oxidation and

autophagy. It promot glucose uptake and utilization,fatty acid oxidation and autophagy.it inhibit glycogen synthesis, fatty acid synthesis. Protein synthesis, cholesterol synthesis.

4. Autophagy : Autophagy is the cleaning mechanism where old cell membranes, organelle, and other cellular junks are removed,that has accumulated over time and may alter the cellular performance. mTOR induces the activation of forkhead box protein (FoxO) FoxO proteins are a member of transcriptional factor have important role in metabolism,cellular proliferation,stress resistance and apoptosis.
5. Antioxidants : The more human become older, reactive oxygen species(ROS) increases and our natural antioxidant defence decreases,this imbalance become greater over time.ROS are involve in some signalling process so right balance of ROS and antioxidant is essential. calorie restriction activates nuclear factor like 2 (Nrf2)which is regulator cellular resistance to oxidants.

#### CONCLUSION :

After going through all Ayurveda text and modern articles of intermittent fasting it can be concluded that *Kalavathhojan* plays a key role to maintain *agni* in right state<sup>14</sup>.Modern articles also shows that right metabolism is the key factor for prevention of aging sign and age related disease. In Ayurveda it is clearly mentioned that *langhan* first digest *apakvaanna* then *Dosha* then *Dhatus*<sup>15</sup>.This

statement can be directly correlated with Autophagy. In *Ayurveda Mandagni* is said to be responsible for all disease, *Ahara* is considered as fuel of *Agni* and health, *Ayu. Prana*, Lusture, Complexion all depends upon *Agni*. *Kalavat bhojan* is one of important tool for keeping *Agni* in right state. It is said that "A gracefull and healthy old age is the childhood of immortality."

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