

ROLE OF AUSHADHA SEVAN KAAL IN AYURVEDA COMPARATIVE TO CHRONO THERAPEUTICS

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ABSTRACT

According to Ayurveda *Aushadha Sevan Kaal* is the type of *Avasthika Kaal*. *Kaal* is an essential factor to consider when treating disease because it refers to the right timing of drug administration. *Aushadha* (medicine) is considered under *Trisutra*. According to Acharya *Charaka*, *Aushadha* having reverse properties of *Desha* (Habitat), *Matra* (Dose) and *Kaal* (Time) can cure the diseases effortlessly. Our Acharya has enlightened the connection of *Kaal* and *Dosha* and suggested consideration while treating the patients. The precise timing at which patients take their medications is critical since it has a substantial impact on treatment outcomes. In Ayurveda, lots of Acharya has specified different *Bhaishajya Kaal* along with the *Dosha*, disease, general condition of the body, and in line with the type of preparations (*Swaras*, *Kalka*, *Kwatha*). Chrono Therapeutics is a term used in modern science to describe the concept of timed dose. It recommends synchronizing your medication schedule with your body's natural clock. Though treating a disease success can be attained only when there is a proper arrangement of *Desha*

(Region), *Kaal* (Time), *Pramana* (Dosage), *Satmya* (Wholesomeness), *Asatmya* (Unwholesomeness), *Pathya* (useful) & *Apathya* (harmful). In this study, an attempt was made to compare the *Aushadha Kaal Prayoga* with chronotherapeutics in modern science. The comparison was done on *Aushadha Prayoga Kaal* of certain diseases such as allergic rhinitis, asthma, rheumatoid arthritis, peptic ulcer, diabetes mellitus. Overall look, both are having similarities vs dissimilarities too.

Keywords: *Aushadha Sevan Kaal*, *Bhaishajya*, Chrono Therapeutics, Circadian rhythm.

INTRODUCTION

Kaal (time) is a crucial aspect in both good health and sickness. From the *Nidana* (causative factor) through the *Chikitsa* (therapy), each stage of an illness is circumscribed by *Kaal*. *Kaal* can be thought of as a change, and it is just one among several for various presentations and calculations¹ and it is expressed as *Dina* (day), *Masa* (month) etc. *Kaal* is *Bhagavan*, *Svayambhu* (self-created), and its beginning, existence, and end are all unknown. It is that determines the individual's life and death.² It is a continuous process like chakra (wheel) which does not stop even for a moment and joins both *Sukha* and *Dhukha* to the life of the individual.³ All forms of impacts are caused by *Kaal*, which is an exclusive and precise causal element. At the same time, it is unavoidable. As a result, Ayurveda being the science of life emphasizes the concept of *Kaal*. *Kaal* is classified as *Niyat* or *Nityaga* (continuous) and *Aniyat* or *Awasthik Kaal*⁴. All the Acharya's have established the relationship between *Kaal* and *Aushadha* in our classics. In Ayurveda explained *Trisutra*, Under the *Trisutra*, *Hetu Lingh Aushadh* is considered. In this trio, *Aushadh* has been given equivalent prominence as the earlier two. There are rhythmic changes in the predominance of *Sharir Dosha* with time. Therefore, when a medicine is given, it is similarly essential to proceed into consideration *Vaya*, *Agni Bala*, *Rogi bala*, *Roga bala*, *Ritu*, etc. *Aushadha sevan kaal* is taken under *Awasthik Kaal*. *Bhaishajya Kaal* refers to

the time when the medicine is administered. Alternative expression of *Bhaishajya Kaal* are *Aushadha kaal*, *Aushadhaavekshan Kaal*, *Aushadha Avcharan Kaal*, *Agad Kaal* *Bhaishajya Graham Kaal*. *Aushadha Kaal* is a vital tool for the administration of *Aushadha*; failure to use them may result in a serious discrepancy in treatment. Nowadays, the relationship is sometimes overlooked, particularly while administering medicine. As the *Aushadha Dravya* fails to show its full effect, such carelessness could be one of the therapies. *Bhaishajya Kaal* is defined in Ayurveda concerning food; they are solely for *Shamana Chikitsa*, and oral administration is the root of all *Kaal*. *Agni*, being the extreme aspect for maintaining *Dhatu-samyata*, all the remedies are directed to maintain and preserve the potency of *Agni*. The proper knowledge of *Agni* and food/drug interaction is helpful to attain a quick and sustainable relief for the patient. The biological processes of the body directly affect the pharmacokinetics and pharmacodynamics of Ayurvedic treatment. Many medications' efficacy is influenced by how long they are given. Predictable change in bodily functions during the day, season, and age has been mentioned in Ayurveda as altering the severity of disease symptoms, diagnostic test findings, and the impact of other therapies. Apart from this, the time of administration of medicine is equally important as the timed dosage is with assurance going to improve the treatment effect.

Number of *Aushadha Sevan Kaal* mention by different Acharya in Ayurveda-

Table 1: *Bhaishajya Kaal* according to different Acharya

s.no	Charak ⁵	Sushruta ⁶	Ashtang ⁷ hridayam	Ashtang ⁸ sangraha	Sharangadhar ⁹
1	<i>Nirannam</i>	<i>Abhakta</i>	<i>Abhakta</i>	<i>Abhakta</i>	<i>Suryodaya(pratah)</i>
2	<i>Bhuktadau (pratah)</i>	<i>Pragbhakta</i>	<i>Pragbhakta</i>	<i>Pragbhakta</i>	<i>Pragbhakta</i>
3	<i>Bhuktadu (sayam)</i>	<i>Madhya Bhakta</i>	<i>Madhya Bhakta</i>	<i>Madhya Bhakta</i>	
4	<i>Bhukta Madhya</i>	<i>Adhobhakta</i>	<i>Adhobhakta</i>	<i>Adhobhakta</i>	<i>Adhobhakta</i>
5	<i>Bhukta paschat</i>	<i>Antarabhakta</i>		<i>Antarabhakta</i>	
6	<i>Bhakta sayuktam</i>	<i>Sabhakta</i>	<i>Sabhakta</i>	<i>Sabhakta</i>	
7	<i>Samudga</i>	<i>Samudga</i>	<i>Samudga</i>	<i>Samudga</i>	
8	<i>Muhurmuhu</i>	<i>Muhurmuhu</i>	<i>Muhurmuhu</i>	<i>Muhurmuhu</i>	<i>Muhurmuhu</i>
9	<i>Grase</i>	<i>Grase bhakta</i>	<i>Grase Sagraasa</i>	<i>Grase Sagraasa</i>	
10	<i>Grasantara bhakti</i>	<i>Grasantara bhakta</i>	<i>Grasantara bhakta</i>	<i>Grasantara bhakta</i>	
11			<i>Nishi</i>	<i>Nishi</i>	<i>Nishi</i>
Total no.	10	10	10	11	5

Chrono-therapeutics refers to a treatment method in which in vivo drug availability is timed to match disease rhythms to optimize therapeutic outcomes and minimize side effects¹⁰. It is based on the observation that there is an interdependent relationship between peak-to-trough rhythmic activity in disease symptoms, risk factors, pharmacologic sensitivity, and pharmacokinetics of many drugs.¹¹ In modern science, refers to the use of circadian or their rhythmic cycles of conditions symptoms of the individual being treated in the application of therapy. It means the administration of medication or treatment in matching with the body's circadian rhythm to maximize effectiveness and minimize side effects. Circadian (circa-about; dies, day or about 24 hours) oscillations in the biological, physiological, and behavioral functions of an organism with a periodicity of 24 hours. Chronotherapy is used in various clinical fields such as the treatment of asthma, cancer, hypertension, and multiple types of depression, among others seasonal affective disorders and bipolar disorders.¹² The most advanced use of chronotherapy (drug chronotherapy) does not entail the use of new drugs, but rather the modification of existing ones. Simple adjustments like changing the dose schedule, reformulating a drug to postpone its entry into the bloodstream, and employing programmable pumps to deliver medicine at exact intervals could have a huge impact.

DISCUSSION

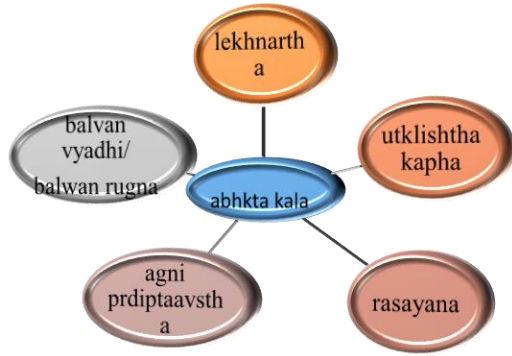
Description of *Aushadha Sevan Kaal* and Chrono therapeutics

Abhakta Kaal (Niranna)-

According to Acharya Chakrapani *Abhakta* means administration of *Aushadha* alone (without food) or before food in the morning or when eaten food has been digested properly¹³. Medicine should be given in the *Kapha Udreka Gata Kaal*, according to Acharya Hemadri. In this Acharya Indu¹⁴ states administration of medicine, it should be one *Yama* after sunrise. Synonyms-*Abhakta*, *Ananna*, *Nirbhukta*, *Suryodaye Jate*

Mode of action of *Bhaishajya* - Due to the absence of food, *Agni* and *Bhaishajya* 's interaction is unfettered. Acharya Sushruta says medicine becomes very powerful in the absence of food and so cures diseases without a doubt¹⁵. As in *Abhakta Kaal* stomach is devoid of *Kapha* thus the digestive fire digests the medicine completely and one gets the maximum benefits of the medicine. Later, the Vaidya should assess the patient's and disease's severity. If both are powerful (*Balwan*), this *Kaal* should be chosen.

Indications – {Fig.1}



{Fig.1}

Contra-Indications-Children, Pregnancy, Female patients, and those who cannot withstand the potency of a medicine, *Doshakshaya Awastha*, *Dhatukshaya*.
Complications –If the medication is administered without considering the facts, then one must suffer from complications like *Glani* (loss of power) and even death.

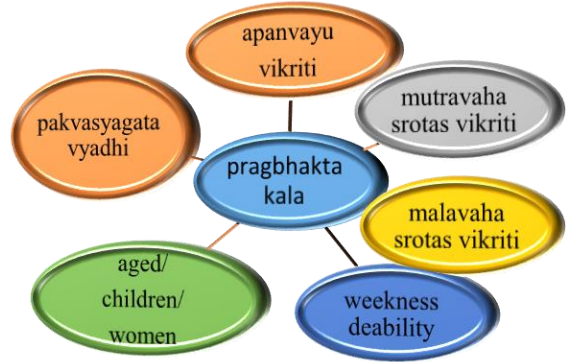
Pragbhakta Kaal-

An *Aushadha* taken (on an empty stomach) just before a meal is called *Pragbhakta*. According to *Hemadri*, *Bhaishajya* intake is immediately followed by food.

Synonyms – *Prak-bhojana*, *Annadau*, *Prag-bhakta*, *Bhojanagre*, *Bhuktadau*, *Poorvabhaktasya*

Mode of action of *Bhaishajya* -Medicine took in *Pragbhakta Kaal*, will get digested without affecting the strength of a person. There is no *Balakshaya* since the *Bhaishajya* is followed by food, therefore it becomes *Agni's* initial target, rather than the food. No regurgitation of *Bhaishajya* occurs as it is covered over with the meal. The *Amashaya* and the vitiated *Doshas* are directly affected by *Bhaishajya*.¹⁶ It will help to cure the diseases related to the stomach. It works on the vitiated *Doshas* situated in *Amashaya* (stomach).

Indications –{Fig.2}



{Fig.2}

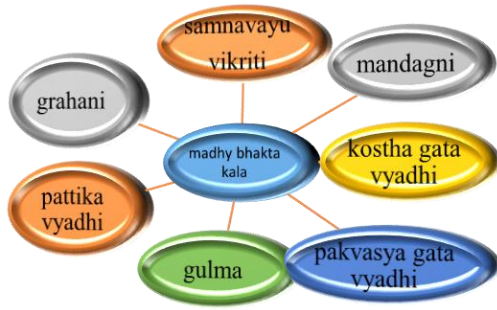
Madhya Bhakta Kaal-

Bhaishajya is taken in the course of a meal is called *Madhyabhakta*. This person is asked to consume half of his meal and then advised to have medicine and then the take remaining part of the meal is advised.

Synonyms –*Madhye*, *Madhye Bhaktam*, *Madhya Bhojana*

Mode of action of *Bhaishajya* - Food restricts the *Urdhwagati* and *Adhahgati* of *Bhaishajya*, forcing them to act locally, which aids in the treatment of *Sthanik Doshas*. Both *Samana Vayu* and *Pachaka Pitta* are located in the *Koshtha*. After the consumed food firstly activates the process of digestion, which in turn triggers *Samana Vayu* and *Pachaka Pitta*. As a result, *Saman Vayu* will act over the medicine taken and helps to give the estimated result. Food is then consumed, which covers the medicine and prevents it from being spit out. The medicine used during this *Kaal* has a particularly strong effect on *Samana Vata*. *Agni* or *Pachaka Pitta* begins to function properly once this *Samana Vata* is improved. All *Pittas* are nourished by the *Pachaka Pitta*. All *Pittas* will function normally if *Pachaka Pitta* is corrected. This *Kaal* utility is in the control of *Pittaja*, *Koshthagata Vyadhis*, and *Samanavayudushti*.

Indications-{fig.3}



{Fig.3}

In *Mandagni*, Medicine is consumed in the middle of the meal to cure diseases of the middle part of the body, by not spreading (*Avisari Bhava*) out of the middle part (*Kostha*- elementary canal).

Adhobhakta Kaal-

According to the Acharya Administration of *Bhaishajya* in after the food is *Adhobhaktam* According to *Hemadri* and *Indu*, *Bhaishajya* is to be administered immediately after meals. In *Vyana Vayu Vikruti*, *Bhaishajya* is administered after lunch while in *Udana Vayu Vikruti*, it is administered after dinner. This *Kaal* is classified into two –

1. *Pratah Bhojana Kaal*
 2. *Sayam Bhojana Kaal*
1. *Pratah Bhojana Kaal* – In this *Kaal* the medicine is administered after the morning meal and indicated for *Vyana Vata Vikruti*.
2. *Sayam Bhojana Kaal* – In this *Kaal* *Bhaishajya* is given after the evening meal, and indicated for *Udana Vata Vikruti*.

Synonyms: *Pratah Ashasya, Pashchatbhakta, Ante, Adhaha.*

Mode of action of *Bhaishajya* -*Bhaishajya* is advised to be administered in the *Pratah Bhojana Kaal* because the site of *Vyana Vayu* is considered as *Hridaya* (heart). This *Bhaishajya* will reach *Hridaya* and will act properly on *Vyana Vayu*. After lunch- stimulation of *Vyana Vayu* after the digestion of food and formation of *Aahara Rasa*. After that, the heart also gets languish after working for the whole day. So the activity of *Vyana Vayu* also hangs down in the night. The activities of *Vyana* are then occupied over by

Udana Vayu. Therefore, the administration helps to cure the diseases related to *Udana Vata*. After dinner- stimulation of *Udana Vayu* and *Udana Vayu* facilitates the *Urdhvagati* of *Bhaishajya*, it strengthens the upper part of the body, especially the sense organs.

Indication –{Fig.4}



{Fig.4}

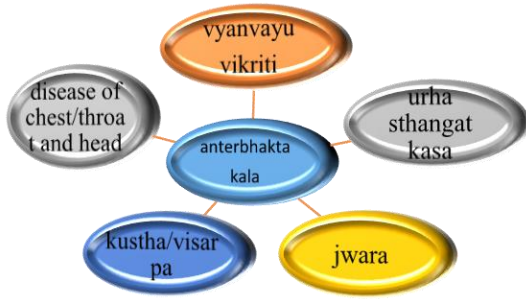
Antarabhakta Kaal-

Antarabhakta Kala is considered to be the administration of *Bhaishajya* between two meals. In this *Kaal* *Bhaishajya* is administered after digestion of afternoon meal, then, after digestion of medicine evening meal is taken. A similar regimen is followed between evening and morning meals. The second *Antarabhakta Kaal*, which is the same as *Nishi Aushadha Sevan Kaal*, is considered by Acharya *Indu* to be one *Yama* followed by the digestion of evening meal. Acharya *Jejjat* has categorized this *Kaal* under *Madhyobhakta*. Acharya *Chakrapani* has stated that in *Antarabhakta Kaal* the medicine is mixed with food or some eatables.

Synonyms: *Antarabhaktam, Bhaktayormadhye.*

Mode of action of *Bhaishajya* – It demonstrates the *Hridya, Pathya, Deepana, and Manobalakara* effects. *Agni* is stimulated as a result of *Madhyanha*, i.e. *Pitakaal*. In this *Kaal*, *Bhaishajya* is properly metabolised.

Indications- {Fig-5}



{Fig.5}

Sabhakta kaal -

According to Acharyas, the administration of *Bhaishajya* is mixed with food or during the preparation of food. Acharya *Indu* also opines the same.

Synonyms –*Bhakta Samyuktam, Sannam, and Samabhaktam.*

Mode of action of *Bhaishajya* -To potentiate *Ag-nibala. Aushadha* and *Ahara* will be digested, and *Rasa* will emerge, *Vyana Vata* will then circulate it throughout the body. In *Rasadhatu Bhaishajya* along with food and spreads *Urdhva, Adhah, and Tiryak Gati* circulate throughout the body, assisting in *Sarvanga Samshrita Vyadhis*. Medicine consumed between two morsels is cordial, donates strength to the mind, kindles digestion, and is always suitable.

Indications- {Fig-6}



{Fig.6}

When food is processed with *Aushadha; Teekshnata*, strong odor, and the bad taste of *Aushadha* are reduced, it is used for administration in women, children, the elderly, people with low strength (*Sukumara*), and those who despise *Aushadha*. In *Ksheena Purusha* that *Aushad Sevan Kaal* protects their *Bala*.

Sagrasa Kaal –

Bhaishajya is taken with every morsel of food is called *Sagrasa* it is also known as *Grase-Grase*. In this *Kaal Bhaishajya* is to be blended with each bolus of food, according to *Arunadatta* and *Hemadri*. This is somewhat similar to *Samudga Kaal*. *Sagrasa* can be used when the drug is in the form of *Churna* (powder), *Vatika* (tablet), or *Leha* (liquid) (confections). *Churna* should be administered for increasing appetite in cases of weak patients. *Vajikarniya Aushadha* is also better administered in this form.

Mode of Action of *Bhaishajya - Sagrasa Bhaishajya* supports the absorption of *Bhaishajya* from the buccal mucosa. Direct absorption from the buccal mucosa into the systemic circulation provides a quick onset of action. The *Pranavayu* is stimulated by *Grasa Kaal Bhaishajya*. The *Indriya* and *Chitta Prasadanas* are thus performed. This improves *Vrishya Dravyas' Prabhava*.

Indications- {Fig.7}



{Fig.7}

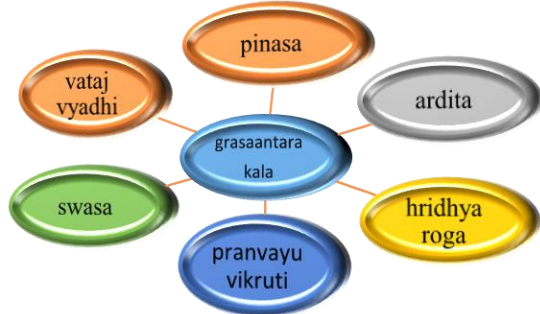
Grasantara Kaal-

Bhaishajya is administered each alternate morsel of food is called *Grasantara Kaal*. One bolus is consumed, followed by *Bhaishajya*, and then another bolus. *Grasantara*, also known as *Kavalantare*, is then taken of *Aushadha* in between each bolus of a meal. When administering the *Vamaneeya Dhumapana*, this is employed.

Mode of action of *Bhaishajya*– It advantages in the correction of the *Gati* (activity) *Vikruti* of *Vata Dosha* by promoting *Anulomana* of *Vata Dosha*. In this *Kaal Aushad* is in the form of powders, which are to be given to persons of weak digestion to in-

crease digestive power and which are aphrodisiac should be given mixed with each morsel.

Indication-{Fig.8}



{Fig.8}

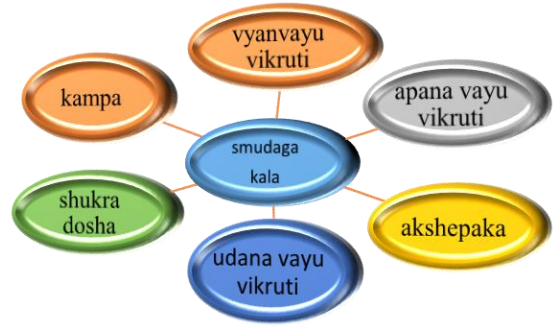
Samudga Kaal-

A *Bhaishajya* is administered at the start and again at the end of a meal is called *Samudga*. The same is said by Acharya *Indu* and *Hemadri*. *Dalhana* emphasises the word '*Peeyate*,' suggesting that *Aushadha* should be in liquid form so that food can be boiled down to a nutshell. It is also effective when the type of medication is *Pana* (liquid), *Navana* (given through nostrils), and *Avaleha* (confections).

Mode of action of *Bhaishajya* -This *Kaal* is best to mitigate the *Doshas* which have spread in both ways. It boosts the drug's *Urdhva* and *Adhah Gati*. It promotes *Anulomana* of *Vata Dosh*, which helps to correct the *Gati* (activity) *Vikruti* of *Vata Dosh*. In circumstances where the disturbed body *Doshas* take both an upward and downward route, this method of administration is more effective.

- 1) *Hikka*- *Kapha* and *Vata Doshas* are implicated in *hikka*. The *Urdhva Sharir* is home to *Kapha*, while the *Adhah sharira* is home to *Vata*. As a result, *Bhaishajya* in the *Samudga Kaal* balances the *Doshas* in the upper and lower body.
- 2) *Akshepaka*- *Vata Doshas* is implicated in *Akshepaka*. So *Samudga Bhaishajya* affects both of the body's extremities.

Indications-{Fig.-9}



{Fig.9}

Muhurmuhu Kaal-

Bhaishajya is administered repeatedly at *Muhurmuhu Kaal*. *Aushadha* is taken regularly, with or without food. This *Kaal* can be broadly categorized into two- 1. *Abhakta Muhurmuhu* 2. *Sabhakta Muhurmuhu* Based on the patient's *Bala*, the indication of with or without meals may have been made.

Mode of Action of *Bhaishajya* - Treats the *Doshas* that has been vitiated in their *Sanchaya* and *Vegavastha*. This *Kaal* is indicated in *Shwasa*, *Kasa*, *Trishna*, *Hikka*, *Chhardi* and *Visha* where continuous *Vegas* is produced. *Aushadha* is given several times to ensure that it has a long-lasting impact. Faster alleviation comes from sublingual absorption. Therefore, in this *Kaal* *Aushadha* can be used in life-threatening diseases.

Indications-{Fig.10}



{Fig.10}

Nishi Kaal-

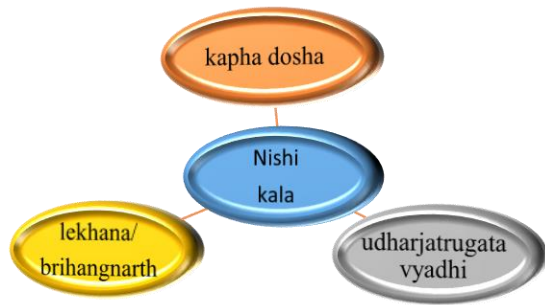
Nishi Kaal is the period following the digestion of the evening meal. The same is said by Acharya *Indu*. It is

an *Anannavastha*, according to *Sharangadhara*. For *Anulomana* and *Brimhana*, this *Kaal* was built.

Synonyms –*Swapnakale, Ratre*.

Mode of Action of *Bhaishajya* -In this *Kaal* the *Bhaishajya* takes a selective approach to the *Urdhvajatrugata* sections. The *Shamana Aushadhai* achieves *Chiraparinamana* (long-lasting action) since no food is consumed till the next morning. *Urdhwajatru (Murdha)* is the place of *Prana Vata*. As a result, medicine given in this *Kaal* affects *Prana Vata* as well.

Indications –{Fig.11}



{Fig.11}

Many medications' effectiveness, according to contemporary research, vary depending on the dosage administration time related to a 24-hour biological rhythm controlled by the circadian clock. Circadian rhythms are self-sustaining endogenous oscillations occurring in 24 hours.¹⁷ The circadian rhythms are related to the normal sleep-wake cycle is influenced by our genetic makeup and hence, affects the body's functions day and night (24-hour period)¹⁸. Suprachiasmatic nuclei (SCN), which are found in the hypothalamus and pineal gland, regulate this rhythm. The circadian clocks in cells, tissues, and organ systems are regulated by this master clock network. The Chrono pharmacologic approaches tend to reduce the side effects and to make the drug more bioavailable. The conventional homeostatic approach is replaced by the proper study of Chrono pharmacology. Diseases, such as hypertension, asthma, peptic ulcer, arthritis, etc. follow the body's circadian rhythm¹⁹. The Chrono pharmacological principle is used in the ther-

apy of Myocardial Infarction, diabetes, hypertension, bronchial asthma, arthritis, hypercholesterolemia, etc. Many functions of the human body vary considerably in a day. These variations cause changes both in disease state and in plasma drug concentrations. The dependence of bodily functions in certain disease states on circadian rhythm is well known.²⁰ Several hormones are released by the brain in the morning, while others are released during sleep like growth hormone, melatonin, prolactin, luteinizing hormone, secretion peak during sleep. Cortisol, renin-angiotensin is a peak at in the morning. late night gastric acid secretion is on a high level.

Aushad Sevana Kaal comparative to Chrono therapeutics

In Ayurveda, *Aushad Sevana Kaal* has a major role while treating a patient as well as modern science explain Chrono therapeutics. But in modern science, it is not considered so in all diseases. Ayurveda classics say that *Kaal* is *Svyambhu* that's why *Vaidya* first considered *Kaal*. In modern science, Circadian rhythms exist in pathological stages of the disease, just as they do in physiological processes. Chrono therapeutics have been shown to have potential benefits in the treatment of a variety of disorders.

Nishi Kaal in Urdhvajatrugata Roga: The worst symptom of allergic rhinitis is reported frequently in the morning. To manage morning discomfort, modern science recommends taking a long-acting antihistamine at night rather than in the morning, depending on the condition. As similar to that, *Pritisayaya/Pinas* is considered as one of *Udhrav Jatrugat Vyadhi* and also *Prana Vata* impairment will be there. In Ayurveda for *Urdhvajatrugata Roga* medicine will be administered at *Nishi Kaal* and for *Prana Vata* impairment Acharya *Shadangdhar* quotes *Syamadhobhakta Kaal*. Here in *Pratisyaya*, this *Nishi* and *Sayam Adhobhakt Kaal Aushadhaa Prayoga* exhibits its mode of action through *Chiraparinama Karma*. This *Chiraparinama Karma* is due to the absence of food till the next morning. *Urdhvajatrugata Roga* is a vast area that includes more diseases includes *Kasa, Swasa Shiroroga, Chakshu Roga* etc. Specific disease based *Aushadha Prayoga* can also be

seen as like *Shwas*, there is specially mentioned to taken *Aushadha* on *Muhurmuhura Kaal*. Also, for *Pranavata* vitiation, *Sagrasa* and *Grasantra Kaal* are mentioned. In *Hikka* only Acharya *Vagbhatt* mention *Smudaga Aushadha Sevan Kaal* So based on *Yukti*, we should select the appropriate *Kaal*.

Muhurmuhu Kaal in Shwas Roga: Asthma attacks come about 50-100 times more at night and early morning rather than the daytime. In asthmatic patients, bronchial constriction is more likely to develop in the morning is due to the level of some hormones in the body. Cortisol (an anti-inflammatory chemical) levels will be higher while we woke up and it reaches a lower range at midnight and histamine (a bronchoconstriction mediator) concentrations also peaked up around 4:00 a.m. This is the reason behind early morning bronchoconstriction. Modern science, in the case of asthma, advised using asthma inhalers more frequently during the period of asthmatic attack. In Ayurveda also, all *Acharyas* specifically advised *Muhurmuhu Kaal Aushadha Prayoga* for *Shwas Roga* i.e., at *Vega Avastha* and to produce rapid relief in symptoms. Also, *Muhurmuhu Kaal* is mentioned for *Visha*, *Chardi*, *Hikka*.

Adho and Madhyobhakta Kaal in Shoolawstha- Non-steroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen, may be more helpful at relieving pain in people with rheumatoid arthritis and other painful joint conditions if taken at least 4 to 6 hours before the pain peaks. If arthritis patients have a very high level of suffering in the morning, using NSAIDs before bedtime will be more beneficial. But in Ayurveda, the concept is a little different from modern science. In modern science, they gave symptomatic relief but, in the Ayurveda, treatment will be based on *Dosha* vitiation. If pain is there, then definitely *Vata* vitiation will be there i.e., Without *Vata Dosha*, pain cannot occur. Ayurveda mainly stresses on pacification of vitiated *Dosha* as the first line of treatment. Due to *Vata* vitiation, two types of *Shoola* mention in the literature. *Shoola* in *Amavata* is considered as *Amaja Shoola*. *Amaavstha* is a present due to a disturbance in *Agni*. The presence of *Ama* is indicated by *Mandagni* and *Mandagni* happens because

of *Samana Vayu Vikruti*. Ultimately, *Mandagni* leads to *Ama* formation. By that, *Samana Vata* involvement will be there in *Amaja Shoola*. In *Saman Vayu Vikriti*, Acharya says *Madhydho (Madhyabhakt) Kaal* is for drug administration and in other joint disorders where *Niramja Shoola* is present we considered *Vyanvayu Vikruti* because of Acharya says *Vyan Vayu Sarvdeh Sanchari*. Then we considered *Pratha Adhobhakta Kaal* for drug administration.

Adhobhakta Kaal in Hridya roga -The onset of cardiovascular disorders such as Stroke, Myocardial infarction, acute cardiac arrest, Hypertension are more likely in the early morning due to release of catecholamine, cortisol, increase in platelet aggregation, vascular tone and heart rate surge. It typically peaks in the middle to the late time of the day, decreases in the evening and all will be at a lower range while sleeping. Blood pressure and heart rate are high during the hours of 6.00 a.m. to 12.00 noon. So, the risk of heart attack also appears greater in the early morning. There are currently antihypertensive pharmaceuticals on the market that are Chrono treatments with innovative drug delivery systems, releasing drugs during the hours of 6 a.m. and noon after pill administration at 10 p.m. Comparative to this in Ayurveda, *Hridya* and *Sarva Sharir* are the site of *Vyan Vayu*. So, all heart diseases are considered under *Vyan Vayu Vikruti*. Acharya mentions that the appropriate *Kaal* for the administration of medicine for *Vyan Vayu Vikruti* is *Adhobhakta Kaal* on both morning and evening. This is the time that seems to have increased blood pressure, so the administration of medicine at the appropriate time helps to maintain blood pressure. In *Astanga Sangraha* Acharya *Vagbhatt* says in *Hridya Roga* gave treatment in *Grasantra (medicine between of two bolus) Kaal* also.

Abhakta Kaal in Pitta Utklesha Vyadhi – In peptic ulcer, stomach acid causes worsening of pain during digestion. In the case of duodenal ulcer, the patient feels pain after 3- 4 hours after stomach acid release is highest at night, it is widely known that individuals with ulcers often have the most pain towards the time they go to bed. The order in which ulcer treatments are given has a substantial impression on their heal-

ing effect. It is more effective to take these medications before going to bed or before food. In modern science, conventional H₂ blockers (Ranitidine, cimetidine, famotidine) is given in the early morning and evening time before food. Acidity is commonly aggravating in the early morning time, so a Proton pump inhibitor is indicated to give on empty stomach for a better result. While we look into Ayurveda, *Nirannam(abhakta) Bhakta Kaal* is indicated in *Kapha* and *Pitta Utklestha Vyadhi* such as *Kaphaj Kasa, Adho* and *Urdha Amlapitta* etc. Then we considered in both *Vyadhi* medicine is administered at empty stomach for a better outcome. *Kaphanubandhi Amlapitta* is commonly aggravated at early morning time so when follow *Aushadha Sevan Kaal* in this as a *Sanshodharth* or *Sanshamnarth* *Aushadha* is administered before food to get better relief due to direct contact of *Aushadha* with digestive fire.

Abhakta Kaal in Prameha: In IDDM, it's advised to take insulin injection before food²¹ and also oral medications (metformin) is advised after food to control blood sugar level in modern science. Likewise, in the case of vitiated *Kapha*, it's mentioned as *Abhakta* (on empty stomach) for *Aushadha Prayoga*, as *Prameha* is the *Kapha* vitiated *Roga*, it's preferable to give medications on empty stomach than by the direct contact of medicine with *Agni* without the hindrance of food the action of the drug will be faster. At the same time, *Astanga Sangraha* mentioned *Adhobakta Kaal* for *Kaphaj Vyadhi*.

CONCLUSION

Though chronotropic has received a lot of attention in academic circles, it is still ignored in clinical practice. Ayurvedic medicine is far more concerned with the timing of medicinal administration. Clinically, the significance of *Aushadha Sevana Kaal* are more cardinal, as without it all the medicine and food will be for naught. The *Bhaishajya Kaal* explained by Acharyas seems to be based on the routine we follow in a day from morning to night along with the predominance of *Dosha*. Oral administration is the cornerstone of all *Kaal* However, it should not be used

in an emergency. Medicines should be taken with fluctuations as per the biological clock of the body. Meanwhile, it looks like the timing of drug administration in disease therapy has a major impact on treatment success. Chrono therapy is a significant area of research that is still being pursued, but it is not often used in inpatient care. But in Ayurveda *Bhaishajya Sevan Kaal* is a more concerned subject while treating disease. *Bhaishajya Sevan Kaal* can also be helpful in the development of new methods for treating both traditional and modern lifestyle illnesses. In this study, in comparison with both sciences, we got both similarities and dissimilarities too in *Aushadha Prayoga Kaal*. Both sciences are standing on their principle, but the aim is to increase the treatment efficacy and to minimize drug toxicity. So, it's more important that we should take account of *Aushadha Prayoga Kaal* while drug administration. As a result, a Vaidya with a thorough understanding of *Bhaishajya Sevan Kaal* can treat patients more effectively and achieve better disease outcomes.

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