



REVIEW ARTICLE

ANALYSIS OF RELEVANCE OF AUSHADHA SEVANAKALA (TIME OF DRUG ADMINISTRATION) IN RESPIRATORY DISEASES

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ABSTRACT

Shwasa, kasa, swarabheda are the Respiratory diseases listed under *pranavaha sroto vikara* in Ayurveda classics. Understanding the pathogenesis of these diseases will decide the proper time of intake of drug and effective utilization of the drug. Effectiveness of the drug administered depends on the time it is taken. *Aushadha Kala* being much flexible can be adopted according to the need of a person for getting desired results. Chronotherapy involves altering the timing of medication administration to improve the overall control of a disease and to minimize treatment side-effects, and is an emerging concept in the field of therapeutics. The researchers found that in asthma the time of administration of medicine depends on the biological clock and chronotherapeutics exploring the effective administration of medicine. Time of administration is an essential tool for administration of *Aushadha* even in respiratory diseases, negligence may lead to failure of treatment. Through one example of applying the time of drug administration in respiratory diseases this article is presented. This way of analysis if done in all diseases, there can no failure of Ayurveda treatment. Thus, this article intended to discuss the application and relevance of practice of time of drug intake in *pranavaha srotovikara* (selected diseases of respiratory system), based on the conceptual review through the classical texts on Ayurveda along with the other recent advanced sources and practical experiences of treating the diseases of *pranavaha srotas*.

Key words: *Aushadha sevanakala, pranavaha srotas, tamakashwasa, chronotherapy*

Key messages

Bhaishajya kala have been quoted depending on the predominance of the *doshas*, seat of the disease, frequency of attack therefore the analysis of components of pathogenesis is essential for deciding the proper *Aushadha sevanakala* for specific disease.

The effectiveness of drugs depends on the time of administration (*Aushadha sevana kala*).

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INTRODUCTION

The article is based on the literature available in the Ayurvedic texts and the clinical experience on the *Aushadha sevenakala* (time of drug administration) regarding the *pranavaha sroto vikara*.

Just like external therapy the time of intake of drug also equally important. The efficacies of the internal drugs vary according to the time of intake. The time of administration of drug is decided depending on the disease. The drug administered in proper time will be more effective.^[1] *Aushadha sevanakala (time of drug administration)* is the time in which drug to be administered by due consideration of *dosha, prakriti (body constitution), vyadhi avastha (disease state), vaya (age), dushya etc.*,^[2] though the text of Ayurveda mention *Aushadha kala* specifically considering the *vata*, still *Ashtanga Hrudaya* explored the usage of time of drug intake in relation to *avayava* (part affected), and other *dosha* involved.

Chronotherapy, in which treatments administered for diseases at times of the day, is likely to yield greatest efficacy. This hints

“time-of -day” at which a given tissue is metabolically more sensitive to targeted treatment modalities. This also yielded in understanding that body is invariant not dynamic and homeostatic unit reflecting the understanding of dosha in ayurvedic parlance.^[3] Determining the right time is been emphasized even in contemporary practice for e.g., multiple drug therapy, drug-drug or drug-food compatibility, scheduling of diagnostic studies, bioavailability of drug, drug actions, and biorhythm effects will have its role in deciding the time of administration of drug.

Common diseases of *pranavaha srotas* as enlisted by *Sushruta* are *shwasa, kasa, hikka and swara bheda*. Among these diseases *shwasa* is a disease with the involvement of *prana, udana, vyana and apana* accordingly application of *Aushadha sevana kala* differs according to the *sthana* involved and the *dosha*. As these diseases manifest (*vyakta*) in *kapha sthana* there is need to analyze the *kala* of drug administration considering the *dosha* involved. Here 11 different time of administration of drug is discussed for respiratory diseases (table 1.).

Table 1: Number of Aushadha Kala according to different Acharya

Aushadha kala	CH. CHI.	SU.	A.H.SU.	A.S.SU.	SHA.SAM.PU	KA.SAM.KHI.
	30/218	UT.	13/37	23/12	.2/1-12	3/44
	(10)	64/6	(10)	(11)	(5)	(10)
		7				
		(10)				

Abhakta	Niranna		Ananna	+	Suryodaye jate	Parah
Pragbhakta	+	+	Annadau	+	–	Purvam bhaktasya
Adhobhakta	Pashchat bhakta	+	Ante	+	–	Adhah
Madhya Bhakta	+	+	+	+	–	+
Antara Bhakta	–	+	–	+	–	Bhaktayo madhye
Sabhakta	Bhakta samyukta	+	Sannam	Sama Bhaktam	–	+
Samudga	+	+	+	+	–	+
Muhurmuhu	+	+	+	+	+	+
Grasa	+	+	+	Sagrasam	–	+
Grasantaram	+	+	Kavalantare	+	–	+
Nishi	–	–	+	+	+	–

Usage of time of administration of drug

1. Empty stomach(*Niranna /Abhakta*)

It is advised in *kapha disorders*^[4] because, this is the time wherein *kapha* is dominating in the body over other two *dosha*. Hence reducing *Kapha* with drug is easy at this point of time. So if *kaphaja kasa* or in *kasa* in general with productive cough in the morning on getting up, or *tamakashwasae* episodes starts in the early morning this time is ideal for *shamana* or *sadyovamanab* but this *kala* need to be applied by considering the strength of patient. As Drug that are given on empty stomach will have maximum effect on the body. Because, the

stomach does not have any other thing to digest, it digests the drug very well. If the respiratory disease is because of increased weight then also this time is ideal as druginterferesto decrease the hungerso can be given in this time and, thereby helping the patient to eat less. This is also ideal for those who have severe episodes of cough and asthma because of action of drug to its maximum potential to save the patient hence, empty stomach is preferred. On an empty stomach, the full of stomach and intestines are available for effective drug absorption. This

time of the drug must be practiced in children and elderly people with care.

2. Before food (*Pragbhakta*)

It is preferred in cases of *apana vata* imbalance disorders like constipation, diarrhea, menstrual disorders, etc. Drugs that are administered before food, undergo digestion before food reach the large intestine. So, drugs will bring about their therapeutic action swiftly. Because the drug is soon followed up by food, there will not be distress due to drug effect. This time is suitable even for children, elderly and women. Episode of diseases of *pranavata* occur with the *apana vata dushti* like incomplete evacuation^[5]^[6]. This time will also strengthen the lower part of the body. The chronic patients of *pranavaha srotas* like in asthma generally suffer with debility or weight loss^[7]. This time can be adopted in these conditions to control the severe episodes, as it is followed by the food.

3. In between food (*Madhya bhakta*) –

It is preferred in cases of *samana vata* imbalance.^[8] Half of the food is to be consumed then drug has to be given then again the rest of the food is to be given this makes drug to stay in the intestines for a longer period of time. Hence, all the digestive disorders related to intestines can be targeted easily. In *pitta* disorders also, this time is preferred. Diseases of *pranavaha srotas* do

exhibit the symptom of the loss of appetite especially in children and also the *tamakashwasa* is a disease considered to be *pittasthana samudbhava* (manifest in the place of *pitta*). In charaka samhita, acharya chakrapani commented on the *pittasthana samudbhava*, where it has been explained that *pittasthana* referred to the upper part of the *amashaya* and it is only the site of manifestation of the disease not the site of its origination, i.e., *pitta* is not directly involved in the pathogenesis of the disease but sometimes the symptoms of *pitta* is seen in disease which is because of the involvement of the site of *pitta* and not directly the involvement of *pitta* in manifestation of disease.^[9]

4. After food (*Paschatbhakta*)–

In disorders of *vyana vata*, drug is given at the end of morning food, also in upper part of the body and to gain weight, after food time is preferred.^[10] Because, for weight gain, *kapha dosha* needs to be boosted, in such conditions drug to be given in this *kala*. In such case where *pranavaha srotomula* is involved as in cor pulmonale, congestive cardiac failure this time is preferred.^[11] In disorders of *udana vata* drug is given after dinner. Further, in the *samprapti* of *kasa* explained by Acharya Charaka the *udana* involvement is clearly mentioned i.e., *udanabhavamapanna*.^[12] So, unless the *udana* is corrected the condition

cannot be completely controlled. So in *pranavaha sroto vikara*, Binary Dose (twice a day) of drug administration is helpful especially after the food.

5. In between morsels of food (*Grasantara*)

–

This time period is useful for disorders of *prana vata*^[13] (which controls peristalsis movement and respiration.). *Prana vata* imbalance leads to vomiting, breathing difficulties (as in Asthma) etc. So, sandwiching drugs between two morsels help the patient to normalize peristalsis (down movement of food). Common form of drug that can be given in such conditions are *churna*, as *churna* can be taken easily with the food.

6. Mixed with each morsel of food (*Sagrasa*)–

In case of lack of taste, anorexia, indigestion, drug is mixed with food and given to patient. It helps in masking the taste of drug and aids in improving digestion strength and thus helps to treat anorexia. Aphrodisiac drugs, are usually administered in this time period.

7. Repeatedly, many a times a day (*Muhurmuhu*)–

In diseases of poison, vomiting, hiccup, thirst, dyspnea and cough this time is advised. These disorders develop symptoms throughout the day and the drug is required throughout the day to keep the symptoms under

check. *Muhurmuhu* is the time of drug wherein drug is administered repeatedly with or without food as in case of *tamakashwasa*; *churna* mixed with honey in a dose preferred for licking throughout the day^{[14], [15]}.

8. Mixed with food / cooked with food (*Sabhakta*) –

The drug in this *kala* can be given in any age group, for those individual who are very delicate or mild. In anorexia, low digestion strength, when the whole body is affected by disease, and when the body is injured, the drug is cooked / mixed along with food and is given to the patient. In palliative disease of respiration which in due course produce its affect throughout the body, in childhood asthma cases where drug taste to be masked, there this time of drug is preferred.

9. Before and after food (*Samudga*)–

In hiccups, tremors, *akshepaka* (convulsions), to treat *dosha* which have occupied the upper and lower parts of the body, this time is preferred. Digestive *avalehas* and *churnas* are usually administered in this period.^[16] In *vegakaleenaavastha*, where the person will have severe bouts in cough, or in *tamakaShwasa* or in *hikka* this is utilized. The conditions, where the person will start with difficulty in an empty stomach as well as after the food, patient is advised to take drug in *samudga*.

10. In between two meal times (*Antarabhakta*)–

Previously, people were taking only two meals per day. So, in the afternoon, when the breakfast is digested and at about mid night, when the dinner is digested, drug was given. Cardiac tonics, drug to improve mental strength, to improve digestion strength, drugs that are to be taken for a long period of time, and in some *vyana* disorders, this time period is preferred.^[17] This time is useful for *tamakashvasa* in *yapya* stage.

11. At night, bed time(*Nishi*) –

For diseases affecting head and neck.^[18] When the patient specifically complains of throat irritation (may be *tundikeri*, *peenasa*, *kshawathu*etc). This time of drug intake to be advised. Drug should be advised as, after the food and before going to the bed. That is, in first half of the night food must be taken then take the drug in *nishi*.

DISCUSSION

The disease specific application of time for drug intake gives the insight of ancient sheers. This indicate a disease must be evaluated every time for its *dosha* vitiating, *srotas* involved and stage of the disease. A given disease can effectively be treated with the understanding of *kala*. *Acharya Charaka* in the context of treatment of diseases which are not explained in the text mentions, six observatory time^[19] and time of intake of drug

is one among them. This upholds the importance of deciding proper *Aushadha kala* considering the components of pathogenesis. The *Aushadha kala* is much flexible according to the need of the person one can select the effective *Aushadha sevana kala* for getting desired results. The rate of metabolism of drug depends on metabolic fire (*agni*) and presence or absence of food.^[20] The pharmacokinetics and pharmacodynamics of an Ayurvedic medication is directly affected by biological activities of the body. The effectiveness of many drugs depends on the dosage administration time. In Ayurveda it has been mentioned that, the predictable variations in bodily functions during day, season and age alters the severity of disease symptoms, results of diagnostic tests and effects of drugs and other therapies. Hence analysis of disease and patient is must before fixing the time of administration. These times of drug administration mainly described considering the palliative treatment,^[21] hence in emergency management as well as in administration of purificative treatment no need of adhering this *kala* in strict sense. The relation between *kala* and *Aushadha* is well established in classics by all the *Acharya*. Further, Chronotherapy involves altering the timing of medication administration to improve the overall control of a disease and to minimize treatment side-effects, and is an

emerging concept in the field of therapeutics. The researchers found that in asthma the time of administration of medicine depends on the biological clock and chronotherapeutics exploring the effective administration of medicine. ^[22] This relation has been neglected now a day, specially while administering the medicine. Such negligence may be one of the reasons for not getting the desired effect from the therapy, as the *Aushadha dravya* fails to show its optimum effect. Hence, to utilize the *Aushadha* to its optimum level, *bhaishajya kala* have been quoted depending on the predominance of the *doshas*, seat of the disease, frequency of attack, etc

CONCLUSION

Time of administration is an essential tool for administration of *Aushadha* even in respiratory diseases, negligence may lead to failure of treatment. Evaluation of *vata*, *jeernalinga (symptoms of digestion)*, *vyadhi (disease)*, *dushya*, site of manifestation plays pivotal role in deciding time of drug administration. Though *vata dosha* has given prime importance in the context, *pitta* and *kapha* are also considered in some *kala*. Time of drug administration can only be used for *shamanaushadhi* and cannot be followed in emergency conditions. This is one example of applying the time of drug administration in respiratory diseases. This way of analysis if

done in all diseases, there can no failure of Ayurveda treatment.

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