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A CONCEPTUAL REVIEW ON OUSHADHA SEVANA KALA AND ITS CLINICAL SIGNIFICANCE

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ABSTRACT

The effect of a drug depends not only on the dose and mode of administration but also on the time of administration. Ayurveda always gives importance to timely administration of medicines. Our classics state it very clear that '*kalascha bhesjasya yogyatham adathathi*'¹. *Kala* is *aniyathasidha nimitta karana*, hence *oushadha* employed in a proper *kala* will result in expected *karya*, so our *acharyas* explain about the *kshanadi* and *vyadhiavastha kala* while administering medicine². Many functions of human body vary throughout day and night. *Doshic* variations exist in respect to end, middle and beginning of the age, day, night and digestion³. The advanced research in chronotherapeutics also spread light into the above said concept to biological changes.

Keywords: *Oushadhasevana kaala, Chronotherapeutics.*

Introduction

Oushadha sevana kala is a very unique concept pertaining to Ayurveda. Our insights about this is more textual than practical. Our classics state it very clear that '*kalobhaisajya yoga krit*', the complete action of a medicine is exerted properly only if it is administered at proper time. Many functions of human body vary throughout day and night. There will be *dosha* variations in respect to end, middle and beginning of the age, day, night and digestion. These *kalas* seem to be based on the routine we follow in a day from morning to night along with predominance of *dosha*. Ten number of *oushadhasevana kala* are explained in our texts whereas *Acharya Sarangadhara* concises it under drug dynamics. *Acharya Hemadri* named this *kala* as *shamanaoushadha kala* which implies that, this *oushadha sevana kala* should be considered while treating a patient with *shamana oushadha* and is not applicable in case of *shodhana chikitsa*. This discussion is applicable for orally administered drugs as they come in contact with *agni* at the first instance of drug digestion and metabolism. The classical approach is based on two *annakala*, however modifications may be necessary in contemporary food and diet habits as more than two *annakala* are practised. The drug-food interaction and drug - drug interaction are also vital in deciding the extent of drug efficacy. The advanced research in Chronotherapeutics also spreads light into the above said concept of biological changes. *Oushadhasevana kala* is an important principle to be considered while treating a disease. Still hardly a handful of physicians are seen, who account for this. To highlight its royal role in *chikitsa* there is an immense need to analyze this concept, which is the need of the hour.

Definition: *Oushadhakaala: oushadha sevanasya samaye (vaidyaka sabda Sindhu)*

Synonyms: *Bhaisajya kaala, bhaisajya grahana kaala, oushadha avacharana kaala, agada kaala, oushadhavekshana kalaa*

Number of *oushadha sevana kala* according to different *acharyas*:

<i>Sarangadhara samhitha</i>	5
<i>Charaka samhitha</i>	10
<i>Ashtanga hridaya</i>	10
<i>Sushrutha samhitha</i>	10
<i>Ashtanga sangraha</i>	11

Terms as per different acharyas:

<i>Charaka samhitha</i>	<i>Susrutha samhitha</i>	<i>Ashtanga hridaya</i>	<i>Ashtanga sangraha</i>
<i>Niranna</i>	<i>Abhaktha</i>	<i>Ananna</i>	<i>Abhaktha</i>
<i>Bhuktahdou</i>	<i>Pragbhaktha</i>	<i>Annandou</i>	<i>Pragbhaktha</i>
<i>Bhuktha paschat</i>	<i>Adhobhaktha</i>	<i>Anthe</i>	<i>Adhobhaktha</i>
<i>Bhuktha madhye</i>	<i>Madhyebhaktha</i>	<i>Madhyama</i>	<i>Madhyamabhaktha</i>
-	<i>Antarabhaktha</i>	-	<i>Antarabhaktha</i>
<i>Bhaktha samyuktha</i>	<i>Sabhaktha</i>	<i>Saanna</i>	<i>Samabhaktha</i>
<i>Samudga</i>	<i>Samudga</i>	<i>Samudga</i>	<i>Samudga</i>
<i>Muhurmuhu</i>	<i>Muhurmuhu</i>	<i>Muhurmuhu</i>	<i>Muhurmuhu</i>
<i>Grase</i>	<i>Grasabhaktha</i>	<i>Grasae grasae</i>	<i>Sagrasa</i>
<i>Grasanthara</i>	<i>Grasanthara bhaktha</i>	<i>Kabalantare</i>	<i>Grasanthara</i>
-	-	<i>Nisi</i>	<i>Nisi</i>

1. ABHAKTHA

According to *Ashtanga Sangraha* medicine should be given in morning after the increased *kapha* has moved out of the stomach⁴. According to *Acharya Chakrapani*, *abhaktha* means in the morning before food and food is given only after complete digestion of medicine⁵. According to *Indu*, medicine should be given one *yama* after sunrise⁶. According to *Hemadri oushadha* to be given in *kapha udreka gatha kala*⁷.

Indication

Balina rogi⁸: Patients having good strength can well tolerate the *veerya adhikya* of medicines in empty stomach.

Balina roga: Patients affected with severe diseases need stronger medicines. *Acharya Susrutha* says that medicine which is taken in empty stomach becomes more potent (*adhikaveeryavan bhavathi*) and there will be more absorption of medicine⁹.

Kaphodrekagada (diseases of *kapha*): *kaphaja rogas* will be stronger during this *kala* and administration of medicine is in *kapha kala*, so diseases related to this *kala* are cured well.

Kaphodrekagatha¹⁰: The term '*kaphodreka*' means '*kaphavidhi*', *gatha* means after *kapha vidhi*. According to *Indu* this is one *yama* after sunrise. During this time normally *kapha* will be in *vridhavastha* and *agni* becomes *manda* and there won't be proper digestion or absorption. So once the increased *kapha* has moved out there will be active *pitta* which helps in more absorption and digestion of medicine.

Lekhanartham¹¹: ('*suryodaye jate*' according to *Sarangadhara Acharya*): *kapha* will be more during this *kala* in *amashaya*. *Kapha* by nature, itself is sticky so only *lekhana* drugs can remove *kapha*, and also due to *ashrayashrayi bhava* of *medo dhathu* and *kapha dosha* for *lekhanartha* this *kala* is indicated.

Contraindication¹²: *Bala, vrudha, stree* as these persons cannot withstand the potency of medicines when it is given in empty stomach, it will produce complications like *glani, balakshaya* etc.

2. PRAGBHAKTHA

Administration of medicine just before the intake of food.

Indications:

Viguna apana: Administration of medicine just before food helps in proper *gati* of *apana vata*. By this *prathiloma gati* of *vayu* can be corrected.

Krushikaranartham¹³: In *sthoulya* there will be vitiation of *agni* and *vayu*. The drug which is *guru* and *apatarpana* administered in this *kala* can pacify *vayu* and control *agni*. By this there will be less hunger and less food intake.

Adha kaya vyadhi: Most of the diseases related to lower part of the body is caused due to *apana vayu vaigunya*. As this *kala* is best to cure the *apana vayu vaigunya*, *adhokaya vyadhis* are treated well.

Adha kaya balartham: *Vata vrudhi* leads to *balakshaya*. In this *kala apanavayu* is well controlled, so it helps to increase *adha kayabala*.

Bala, vrudha, bheeru and krushanga: Food is given immediately after medicine so patient can withstand the potency of the drug and also there won't be any regurgitation of medicine as it is covered by the food.

3. MADHYAMABHAKTA

Administration of medicine in between a meal is called *madhyamabhaktha*.

Samana vayu vaigunya and paithika vikaras¹⁴: In this *oushadha sevana kala* initially food is given, which stimulates *agni* and *samana vayu*, so the medicine which is given at this time can directly act on *samana vayu* and *pachaka pitta*. After the medicine, again food is given which will prevent regurgitation.

Pachaka pitta is the main type which supports all the other *pitta*. If this is corrected all other types of *pitta* can be corrected, thus this *kala* is apt to correct *paithika vikaras*.

Madhyadehagata roga and koshtagata rogas¹⁵: These diseases are caused mainly due to vitiation of *samana vayu* and *pachaka pitta*, therefore the medicine administered at this *kala* is best to cure *koshta vikara* and *madhyadehagata roga*. *Acharya Susruta* emphasize that *avisaribhava* of *oushadha* in *madhyamabhaktha* cures the diseases of *koshta* as this medicine stays for long time in *koshta*.

4. ADHOBHAKTHA

Here the medicine is administered after the intake of food. It is divided under two headings; *pratarasanathe* (after morning meals) and *sayamasananthe* (after evening meals)

Vyanavayu vikaras¹⁶ (pratarasya asanathae): The site of *vyanavayu* is *hridaya* and *hridaya vikasana* occurs in morning hours. The medicine given at this time may directly act on *hridaya* and thus on *vyana vata*. It can also be interpreted as, after the digestion of food *rasa* is formed which is carried by *vyanavayu* later, all over the body which in turn cures the *vyana vayu vikara*.

Udanavayu vikaras (sayam asanathe): *Acharya Charaka* did not mention *nisi* under *oushadha sevana kalas*. He might have considered it under *saayamasananthae*. According to

Acharya Susruta, udana vayu vikaras leads to jatruordha vikaras. As per *Dalhana* commentary *jatruordhwa* means *nayana vadana ghranadi*, which can be specifically told as *indriya* related *vikaras*. But for this *Acharya Vagbhata* has mentioned *nisi* as *oushadha sevana kala*. Obviously the doubt arises why *Acharya Vagbhata* would have mentioned both *sayam asananthae* and *nisi*. So here it can be substantiated as, diseases in which both *uras* and *jatruordha* are involved we can adopt *sayamasananthe*, if diseases are more specific to *indriyas* we can opt *nisi*.

***Kaphaja vikaras*¹⁷:** After the initial stage of digestion there will be *kapha* predominance *ie, madhura avasthapaka*. *Kaphaja vikaras* aggravate during this time just like *kaphajonmada* aggravates during the first stage of digestion, the *kapha kala*. Thus the drugs which are *teekshna* and *ushna* (*visesha sidhantha*) given at this time can cure the *kaphaja vikaras*. *Tikshna* and *ushna* drugs if given in empty stomach may irritate gastric mucosa. So here, it is given after food because of which drug is well tolerated.

***Urdhvakaya vyadhi and urdhvakaya balanartham*¹⁸:** Most of the diseases of *urdhakaya* are caused due to *kapha*, so the administration of drug at this *kala* can cure the diseases of *kapha*, hence there will be more *bala*.

Brimhana / sthulikaranartham: After the food if *pachana* drug is given then there will be proper digestion and absorption of food. By this *brimhana* is possible.

As per *karshya chikitsa* one should give *laghu* and *tarpana ahara*. These types of *ahara* stimulates *agni* and there will be proper digestion of *ahara* and *oushadhas* by which *sthulikarana* is possible.

5. SAMABHAKTHA

In this *kala* medicine is administered along with food, mixed with food, either while preparing the food or during the administration.

***Arochaka*¹⁹:** Here medicines can be mixed with different kinds of food, so it becomes more palatable and it stimulates the tongue.

In case of *arochaka* there will be *agni mandatha* and *bala kshaya*. If medicine is given without food then person cannot withstand the *veerya* of the medicine.

Bala, sukumara and oushadha-dveshi²⁰: Those drugs which do not have pleasant taste can be mixed with food and given. The same *oushadha kala* is advocated in *sarvanga roga*.

6. ANTHARABHAKTHA

Administration of drugs in between two meals is considered as *antharabhaktham*. According to *Indu commentary*, food should be given in *purvahna kala*. After the proper digestion of food medicine should be given during *madhyahna kala*. After the digestion of medicine again food is given in *aparahna kala*.

Hrdya dravya and manorogahara oushadha²¹ - Hrdya drugs are advised during this *kala*. In case of *manoroga*, there will be vitiation of both *shareerika* and *manasika doshas*. In case of *manoroga*, there is a need for more potent medicine. If medicine is given along with food there will be food drug interaction and conversely potency gets reduced. So, medicine is given separately.

Vyana vayu vikara²²: *Sthana* of *vyana* and *manas* is same i.e. *hridaya*. This *oushadhasevana kala* is mentioned in diseases related to *vyana* and *manas*.

7. SAMUDGA

Administration of medicine just before and after food. The word '*samudga*' means a box like structure. Here care to be taken that *ahara* should be *laghu* and *alpa*.

Kampa akshepaka hidma and urdhva-adhavyadhi(pravisrutha dosha)²³: Vitiating *vata* is the main cause for these diseases. And the medicine to be given during the *vegavastha* of diseases. Here medicine which is given before food does the *vata anulomana* and after the food does *vata samana*.

8. MUHURMUHU

Regardless of the fact whether the patient has taken food or not, here the medicine is given again and again.

Visha chardi hidhma trit swasa and kasa²⁴: There will be continuous *vegavastha* in these diseases. If medicine is given at this *kala*, *vegavastha* can be subsided and the recurrence can be prevented.

In these diseases *agni* will be *inmandavastha*. Medicine which is given in *alpa matra* helps to enhance the *agni*. If it is given in large quantity there will be chances of vomiting.

9. SAGRASA

In this *kala* drug should be given along with the morsel of food.

Pranavayu vikara²⁵: *Annapravesha karma* is the function of *pranavayu*. So, a drug administered with bolus of food can easily cure the diseases of *prana vata*.

Deepana: According to *Acharya Susruta*, medicine given at this *kala* can increase the digestive power.

10. GRASANTHARA

Grasanthara means administration of medicine in between two bolus of food.

Pranavayu vikara and hridroga²⁶: *Annapravesha karma* is the function of *prana vata*. Medicine given at this *kala* can easily cure the diseases of *pranavata*.

11. NISI

Nisi means administration of medicine at bedtime. (*svapna kale*)

Urdhajatru vikara: *Jatrurdhagata vyadhis* are mainly due to *kapha dosha*. *Nisi*, the first *yama* of night is *kapha kala*. A medicine administered in *kapha kala* for *kaphaja vyadhis* can give better results.

DISCUSSION

Specificity is an art that helps in distinguishing and providing accuracy in any field of science. *Oushadhasevanakala*, the formulation and disease specificity with respect to time of administration is a unique concept mentioned in our classics. Another interesting factor here is various *yogas* have different actions based on the time of action such as *dhatri lohaie*; before food in *pitta-vataja roga*, between food in *vishtambha janya roga* which prevents *vidaha* and after food in *virudha anna krita dosha*. Also *Nidigdhikadi Kwatha*, administered in evening for *urdhwajatru vikara* and *ratri jwara*, in morning for other types of *jwara*.

The novel development in the field of chronotherapy is found to be supportive to substantiate the scientific aspect of *oushadha sevana kala* which was well described in Ayurveda classics decade before. Gastrointestinal absorption of the drug is influenced not only by the gastrointestinal motility, the intraluminal PH, blood flow to stomach and enzymatic action, but also depends on the circadian rhythms. All the above said factors are also influenced by the time of the day. Drugs that are lipophilic are found to have more rate of absorption in early morning hours rather than any hour of the day. Absorption of thyroxine is reported to be more complete on empty stomach but can be variable and incomplete when taken with food.

CONCLUSION

The relationship between *kala* and *oushadha* is well established in our classics by all the *acharyas*. Knowingly or unknowingly this relationship is neglected now a days while administering medicine. This negligence may be one of the reasons for not getting the desired effect from the treatment. *Oushadha sevana kala* plays an important role in deciding the efficacy and intensity of drug dynamics. A single drug can act in many ways based on the *oushadhasevana kala*. The drug food interaction and drug drug interaction are also vital in deciding the extent of drug efficacy.

The concept of *oushadha kala* is applicable only for *samana* drugs; *sodhana dravyas* are explained separately based on the indication and specific procedure. This discussion is applicable for orally administered drugs as they come in contact with *agni* directly at the first instance of drug digestion and metabolism. Only types of *vata* have been mentioned probably indicating the importance of it in the disease initiation and progression. The classical approach is based on two *annakala*, however modifications may be necessary in contemporary food and diet habits as we follow more than two *annakala* nowadays. *Oushdhasevana kala* acts like a guided missile to tackle disease at its most active phase.

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Materials and methods

This article is based on a review of Ayurvedic texts. Materials related to *oushadhasevana kala* and other relevant topics have been collected. The main Ayurvedic texts used in this study are *Sushruta samhitha*, *Ashtanga sangraha*, *Ashtanga hridaya*, *Charaka samhitha* and *Sarangadhara samhitha*. We have also referred the modern texts and searched reliable websites to collect information on the relevant topics.

Results

Concept of *Oushadhasevanakala* is a multifactorial one. Ultimately the main factors are *rogi* and *roga*. So naturally the factors which comes under *rogi-roga pareeksha* influences the *bhaishajya kala*.

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