



MODIFICATION IN AYURVEDIC ANCIENTS DOSES FORMS – MERITS & DEMERITS

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ABSTRACT

Advances in Ayurveda pharmaceuticals is just like an old ghrita in a new bottle. The basic principle of Ayurveda is same as advised by Acharya in Ayurveda classical books. We can change the only way of presentation by using modern technologies. Panchavidh Kashay Kalpana, Avaleha, Gutika, Asav etc are the Ayurveda dosage forms which can be broadly divide into solid, semisolid and liquid forms. In Ayurvedic clinical practice, practitioner faces difficulties during prescribe Ayurvedic doses form due to its appearance, non palatable, non portability. Because of these demerits, it's a great challenge in front of Ayurveda pharmaceuticals to improve ayurveda doses forms which will be easily palatable, long shelf life, simplify to dispense, easily portable, good appearance with increasing therapeutic utility and potency. Present paper aimed to describe advances in Ayurveda doses forms i.e. solid (Rasaushadhies, Vati etc), Semisolid (Avaleha, Ghrita etc), Liquids (Panchavidh kashay kalpana, Asav, Arishta) with clinical approach through its merits and demerits. Extract of paper concluded that all Kalpana or doses forms are aimed with isolation of active principle through different media by application of modern technologies. And with this aim we must insure that the quality or efficacy must be remain original as possible.

KEYWORDS: Ayurveda doses forms, Panchavidha Kashay kalpana, vati etc.

INTRODUCTION

Doses forms also called unit doses, These are pharmaceutical drug products in the form in which they are marketed for use, with specific mixture of active ingredients and inactive components (Excipients), in a particular configuration and apportioned into a particular dose.^[1] For example Triphala Churna, Syp Triphala, Triphala Ghana Vati and Cap Triphala these are different doses forms of Triphala. In Ayurveda classics, Kalpana define as "Kalpanam Upyogarth Prakaalpanam Sanskaranam iti."^[2]

Moorchana defined as "Tatdwidhiprabheden Rasasyavyabhicharat:| Vyadhighatakata ya syat sa mata moorchana budhe: ||"^[3]

We can correlate doses forms with Moorchana in Rasashastra and Kalpana in Bhaishajya Kalpana. Swaras, Kalka, Kwath, Hima & Phanta these are basic doses forms of Bhaishajya Kalpana and Kharaliya, Kupipakva, Pottali and Parpati kalpana these are basic doses forms of Rasashastra. We can classify ancient Ayurveda doses forms according to modern era in solid doses forms, semisolid doses forms and liquid doses forms. In solid doses forms vati, gutika, churna, satva etc are included.

In semisolid doses forms Avaleha, Kalka, Lepa, Malahar etc could be included in semisolid doses forms and As an liquid doses forms swaras, kwath, hima, phanta etc could be included in Liquid doses forms.

Evolution of dosage forms includes the wide range of modification in medication from *Vedic* period to Modern era. *Chakradatta* added the concept of *Parpati* ⁴for the first time. So *Parpati* was an innovative idea at that time.

In the process of evolution we have started making many new ways of presentation such as different dosage form, by using modern machineries, Packaging, Preservatives etc. Is the final product is genuine & effective? It is always remains doubtful about the efficacy? Efficacy can be evaluate by using standardization and quality control procedures.

Need of modifications in Ayurvedic Ancient doses forms because most of the ancient doses forms are not easy to palatable, not easy to carry, having short shelf life, not simple to dispense and not good in appearance. There should be broad scope for modifications, we have to modify Ayurvedic drugs with increasing therapeutic utility and potency.

One of the most advanced in Ayurvedic doses forms is Sukshma Aushadhi Kalpana. Concept of Sukshma Aushadhi Kalpana can be applied on Ayurvedic classical drugs & Kalpa. For sukshmikarana of Ayurveda drugs we use sukshma strotogami media for ex. lactose sugar, alcohol and processing Vishlesh sanskara (Mardana and Melana). Sukshma Aushadhi Kalpana can be prescribing after accessing hetu, linga nidana according to Ayurveda sidhanta and give line of treatment according to Aptopadesh and Granthokta Chikitsa Sutra for internal and external use medicine. By which method we use to prepare medicine called as Sukshma Aushadhi Kalpana.^[5]

In Ayurveda classics concept Sukshma is defined as

“Yat dravyam dehasya sharirasya sukshma chidreshu Romkupprabhutishu Vishesh pravesh karoti tat sukshma uchyate”^[6] For ex. Saindhav, madhu, Nimb, Erand taila

Sukshma means

1. By Size :- Atyanta Sukshma
2. By Dose :- Atalpa Matra

Classification of Ayurveda ancient doses forms according to modern era.

Solid doses Forms	Semisolid doses forms	Liquid Doses forms
In Rasashastra Kharaliya Rasayana Kupipakwa Rasayana Parpati Rasayan Pottali Rasayan Bhasma/ Pishti		In Rasashastra Druti Kalpana
In Bhaishajya Kalpana Churna Kalpana Vati / Gutika/ Varti Kalpana Satva/ Masi / Kshar Lepa Gutika	In Bhaishajya Kalpana Avaleha Kalpana Kalka Kalpana Lepa/ Malahar Kalpana	In Bhaishajya Kalpana Swaras Kalpana Kwatha Kalpana Hima Kalpana Phant Kalpan Sneha Kalpana Asav/ Arishta Kalpana

We can see the transformation of classical preparations into modified forms like tablets, capsule, syrup, etc. These kinds of modifications are the result of industrialization.

Modification of Churna Kalpana

Due to short shelf life and poor Palatability churna kalpana can be modified into compressed tablet for

3. By Action :- Sukshmastrotogamy
In Ayurveda classics Aushadhikaran defined as Alpasypa maharthatva Prabhutasya alpakarmatam| Kuryat sanslesh Visleshkalasanskara Yuktibhi ||^[7]

The process in which sanslesh and Vishesh sanskara processed on aushadhi dravya called as Aushadhikarana. Vishesh Sanskara :- Vibhag: Vibhaktikarana ||^[8]

AIMS AND OBJECTIVES

Aims

- To do observational study of modification in ancient Ayurvedic doses forms

Objectives

- To do market study of Ayurveda doses forms.
- To do observational study of modification in ancient ayurveda doses forms.
- Literary study of merits and demerits of modification.

example Tab Avipattikar, Tab Sitopaladi etc. Churna kalpana also can be modified into sukshma aushadhi kalpana by nimajjan pakriya. First wet churna by adding water and make it like kalka then add 5 times rectified spirit in brown bottle and rotate it upward & downward directions 1001 times every day up to 7 days and then distill it, called as Matrudrava.^[9] For ex Pushyanug Churna

Sr. No.	Merits	Demerits
1	Shelf life can be increases by 2 month to 2 years	There may be chance of reduction in efficacy due to adding excipients.
2.	Easy to palatable Easy to dispense	It can't be give by lehya method in kasa by using Anupana.

In Sharangadhar Samhita shelf life for churna is 2 month which is extended up to 2 yrs according to drug and cosmetic act. It may be because of air tight packing.

Modification of Vati Kalpana

Due to satisfactory shelf life and palatability vati kalpana only modified in processing like addition of binding

agents, Preservatives, Sugar coating, Silver coating, Dispersible tab letting etc In local varti kalpana netravarti and phalavarti mostly use in practice but not in

modified form. Various Eye drops are use in place of netra varti and ointment, jells, oils and creams are use in place of Local varties.

Sr. No.	Merits	Demerits
1.	Long shelf life {In Sh. Sm. 1 yr But according to D & C act For Herbal – 2 yrs For Herbomineral – 5 yrs	There may be chance of reduction in efficacy due to change in chemical properties of preparations due to adding excipients and different types of coating.
2.	Contamination can be prevented	Cost value increases due to modification
3.	Easy Palatable	
4.	Easy to Dispense	
5.	Good Appearance	

Modification in Rasaushadhi

Rasaushadhi includes Kharaliya, Kupipakva, Pottali and Parpati, bhasma, pishti and khanij churna. These are modified into Tablet form for ex. Tab Sheelapravanga, in capsule form for ex. Cap Neuro and Cap Palsineuron. We can modify these preparations into Sukshma Aushadhi Kalpana.

For sukshmikarana of Kharaliya rasayana,^[10] Kupipakva Rasayan, Parpati, Pottali, vasantkalpa, Masi take 1 gm kalpa churna and add 1 gm lactose in khalva yantra. After processing 1001 times clockwise direction mardana it will be converted into Matruchurna (2 gm).

In second step take 2 gm Matruchurna and add 18 gm lactose after processing 1001 times' clockwise direction mardana it will be converted into Pratham Vichurna. In third step take 20 gm Pratham Vichurna and add 180 gm lactose after processing 1001 times clockwise direction mardana, it will be converted into Dwitiya Vichurna. In fourth step take 200 gm dwitiya Vichurna and add 1800 gm lactose after processing 1001 times clockwise direction mardana it will be converted into Trutiya Vichurna. Trutiya Vichurna can be used in practice in 250 – 500 mg in TDS. Dose can be variable according to Dushya, Dosha, Vaya and Bala. Examples are Sukshma Makardhwaj, Sukshma Rasasindoor etc.

Merits and Demerits of Sukshma Aushadhi Kalpana of Rasaushadhi

Sr. No.	Merits	Demerits
1.	Concise dose of prescribe medicine	After sukshmikarana taste become madhura
2.	Rapid action due to quick absorption of Dugdhasharkara.	
3.	Childrens compatibility	
4.	Easily can afford swarnakalpa in poor patients	
5.	Saved valueable drugs due to concise dose.	

Recent advances in the field of bhasmas

1. Bhasmas of minerals, metals and mercurial were prepared earlier through the manual triturating and conventional heating.
2. These two, triturating and heating are important factor with respect to safe and effective products.
3. Triturating makes material fine and heating converts them into suitable compound form.
4. During triturating greater surface of particle is exposed, resulting in better contact of other material added during process which reacts with the exposed surface and convert them into suitable compounds. Continuous triturating is not possible manually since it is difficult, laborious and time consuming. It can be made easy by mechanical process. Hence, triturating and grinding for bhavana should be shifted to machines. It is beneficial as well as easy to achieve the desired particle. It can be determined with the help of particle size analyzer. Fine particle can be absorbed easily by the system. After long observation and detail studies, the Puta system is shifted to Electric Muffle Furnace.

Modification in Semisolid Doses Forms

• Malahar Kalpana

It is a local doses form. It can be modified into ointment, cream, gel for globalization to improve absorption, spreading ability etc. We can prepare sukshma malahar kalpana by using classical malahar kalpana. For preparation of sukshma malahar kalpana from granthokta malahar kalpana take 1 gm kalpa and add 1 gm Siktha taila in khalva yantra, process it 1001 times clockwise direction. In second step add 18 gm siktha taila and rotate it for 1001 times clockwise direction called as Pratham sanskarana. In third step add 180 gm siktha taila and rotate it 1001 times clockwise direction called as Dwitiya sanskarana. At fourth step add 1800 gm Siktha taila and rotate it 1001 times called as tritiya sanskarana. We can use trutiya sanskarana in practice.

We can prepare malahar kalpana by using Matruchurna for ex Nimba or Dashanga Lepa matruchurna. First prepare matruchurna from nimba patra by using single drav vanaspatik nimajjan prakriya or from Dashanga lepa prepare matruchurna by using ghan vanaspatik nimajjan prakriya. After that take 80 gm ghruta and 20 gm kokam

taila or moma, dilute it on low flame by heating. In warm mixture add 1 ml Matrudrava and mix it properly. Lepa gutika is external doses form. It can be modified into cream, liniment, oil or gel.

Modification in Liquid Doses forms

Swaras Kalpana

Swaras kalpana can be modified into Ghana Vati for ex. Nimba Ghana, Tulasi Ghana. In Syrups for ex Liq

Triphala, Liq Shatavari. Swaras kalpana also can be modified into Sukshma Swaras Kalpana by Melana Vidhi. For sukshmikarana of swarasa kalpana^[11] take swaras 10 ml add rectified spirit 10 ml in brown bottle and rotate it upward and downward directions 1001 times every day up to 7 days and then distill it, called as matrudrava. For ex. Vasa swaras, Shatavari swaras.

Sr. No.	Merits	Demerits
1.	It can be preserve for long time	There may be chances of reduction in efficacy due to change in chemical properties of preparation due to heating procedure & by adding preservatives.
2.	Contamination can be prevented	
3.	Easy to palatable Easy to dispense Good appearance	

Modification of Kwath Kalpana

Sr. No.	Modifications	Examples
1.	Ghana Vati	Varunadi kashay Ghana
2.	Kashay Bharad Churna	Dashmool quath bharad churna
3.	Arishta	Liq mahasudarshan quath
4.	Syrups	Liq Triphala
5.	Arka	Dashmool Arka
6.	Quath granules	Mahasudarshan quath granules

Kwath kalpana also can be modified into Sukshma Aushadhi kalpana.^[12] For Sukshmikarana of Kwatha kalpana take 10 ml kwath in brown bottle and add alcohole 10 ml in brown bottle and rotate it upward and

downward directions 1001 times every day upto 7 days and then distill it, called as matrudrava. Pratham, Dwitiya and trutiya sanskaran can do as according to swaras kalpana. Trutiya saskarana can be use in practice.

Sr. No.	Modifications	Merits	Demerits
1.	Ghana Vati	Unit doses forms, Palatable, Long Shelf life, Children's compatibility	Cost value increases, May be chances of reduction in efficacy
2.	Kashay Bharad Churna	Long Shelf life, Time saving compare to preparation of kashaya.	Not convenient for patients
3.	Arishta	Long shelf life, Self generated alcohol itself act as a preservatives, Due to Madhya guna drug absorbs ion increases, Compatible for childrens	Time involve for preparation of Arishta, Cost value increases
4.	Syrups	Long Shelf life, Children compatability	May be chances of reduction in efficacy
5.	Arka	No need of preservatives, Lower dose, Easily administration, Long shelf life	May be chances of Reduction in efficacy.
6.	Quath Granules	Easy Administration, Long shelf life	Cost value increases

Modification of Sneha Kalpana

In oral doses form route Sneha kalpana can be modified into Soft gelatin capsules. For ex. Cap Cervilon. As an rectal route Sneha kalpana can be modified into basti sachet for ex. Basti sachet for ANC care. At local route sneha kalpana can be modified into cream ex shatadhaut ghril or liniment for ex. Flexy liniment.

For local application we can prepare sukshma Aushadhi kalpana^[13] from sneha kalpana. For sukshmikarana of sneha kalpana take 5 ml til taila and add 1-2 drops matrudrava, after 1001 times melan. This 5 ml dose add in 100 ml Til taila, after 1001 times rotation it will be converted into sukshma taila kalpana. These types of Sukshma keshya taila available in market.

Sr. No.	Merits	Demerits
1.	It can be preserve for long time (Ghril – extended 4 month to 1 year)	Cost value increases due to modification
2.	Easy to palatable	
3.	Easy to dispence Good appearance	

Modification in Asav- Arishta kalpana

Asav and Arishta kalpana can be modified into Sukshma Aushadhi Kalpana, also known as Surasav Kalpana. For sukshmikarana of asav kalpana take swaras or kwath 1 part and add Mrutsanjivani sura 1 part in brown glass container. Keep this air tight container without

disturbance for 7 days. On eighth day remove the lid of container and distill inner content. For ex. Vasakarishtha

In above process fermentation process is absent due to presence of alcohol in first stage of processing. Concentration of alcohol in sukshma surasav kalpana is more than asav kalpana.

Sr. No.	Merits	Demerits
1.	Alcohol use in first stage of processing during sukshmikarana.	In asav arishta kalpana alcohol generate during processing called as self generated alcohol which may have more medicinal value for human body.
2.	Due to rich concentration of alcohol in sukshma aushadhi kalpana dose may be prescribe in low quantity.	Alcohol concentration is not more than 15 %,due to this prescribe dose in larger than sukshma aushadhi kalpana.

DISCUSSION

Kalpana and Moorchana these are doses forms which use in Ayurveda pharmaceuticals. We can classify ancient doses form according to modern era in Solid doses Forms, Semisolid Doses Forms and liquid Doses Forms. Evolution of doses forms includes wide range of modification in medication from Vedic period to modern era. And Quality Control and Standardization these are tools which use to evaluate efficacy. In today's scenario Sukshma Aushadhi Kalpana is a most advanced kalpana. Concept of Sukshma in Sukshma Aushadhi Kalpana is by size atyanta sukshma, by dose atyalpa matra and by action sookshmastrotogamy action. Sukshma Aushadhi Kalpana is a doses form in which classical ayurvedic doses forms go through processing like mardana and melana called as vishlesh sanskara. After processing these can be prescribe in Ayurvedic treatment according to aptopadesh and granthokta chikitsa sutra for internal and external use medicine.

Churna kalpana can be modified into compressed tablets. In Sharandhar Samhita shelf for churna is 4 month which can be extended upto 2 years. Palatability is not a prime problem in vati kalpana due to this Vati kalpana only modified in processing like Sugar coating, dispersible. Due to modification, shelf life of vati kalpana extended upto 2 years for herbal tablet and 5 years for herbomineral. Rasaushadhi can be modified into tablet, capsules and Sukshma Aushadhi Kalpana. For sukshmikarana of these Rasaushadhi follow the process of sukshmikarana for Ghana kalpa by using lactose sugar and mardana sanskara. Due to Sukshmikarana of Rasaushadhi it can be undoubtedly prescribe in childrens, easily can prescribe swarnakalpa in poor patient due to low cost and act rapid due to quick absorbson of dugdhasharkara. In the process of Bhavana preparation tituration and grinding for bhavana should be shifted to machine and Puta system is shifted to Electric muffle furnace. By these modification doses forms of bhasma can improve by using nanotechnology.

Swaras kalpana modified into ghan vati tablets, Kwath kalpana modified into ghan vati, Asav kalpana etc. Changing in doses forms improve palatability, Shelf life

but because of modification can chances of demolishing properties.

We can see that every Ayurvedic classical doses forms can be modified into sukshma aushadhi kalpana. Sukshma aushadhi kalpana is a concept in which classical medicine process with different types like lactose sugar or alcohol and go through process like mardana (anticlockwise direction mardana) and melana (upward downward direction rotation). These process may be reduces particle size and improve absorption, bioavailability, pharmacokinetic and pharmaco dynamic actions.

CONCLUSION

- All Kalpana or doses forms are aimed with isolation of active principle through different media by application of modern technologies.
- To globalize Ayurveda, these kinds of innovations are needed.
- With this aim we must insure that the quality or efficacy must be remaining original as possible.
- Concise dose form i.e. Sukshma Aushadhi Kalpana is a great advances in Ayurvedic dose forms.
- Implementing techniques of nanotechnology in bhasma nirmana will reduce the time of production of bhasma and also increase pharmacokinetic action.

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