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PHARMACEUTICO ANALYTICAL STUDY OF SITOPALADI CHOORNA AND ITS LEHYA

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ABSTRACT

Sitopaladi Choorna is a very common formulation prescribed for respiratory disorders. Palatability, mode of administration, refusal for intake due to *Katurasa*, mixing with honey and carrying honey along with drugs are the drawbacks of *Sitopaladi Choorna*. If the same could be modified into a form which would render same results of that of *Choorna*, it would be a better dosage form. Another dosage form namely *Lehya* is also an important form because the preparation has got good palatability, easy mode of administration and better absorption capacity. In this study, *Sitopaladi Choorna* was prepared as per mentioned in *Charaka Samhita.* Then it was converted into *Lehya* form. The pharmaceutico-analytical data were observed and recorded. Analysis of both prepared formulations was carried out as per mentioned in Ayurvedic Pharmacopoeia of India. The prepared *Lehya* has shown upper hand over *Choorna* in palatability, shelf life, action and absorption. The overall results are encouraging in the present study.

Keywords: *Sitopaladi Choorna, Sitopaladi Lehya*, Pharmaceutico and analytical study.

INTRODUCTION

Among the different routes of administration of medicine, oral route is more appreciable. Thus, the concept of *Panchavidha Kashaya Kalpana*[1] was developed by our *Acharyas*. Later, *Upakalpanas* like *Vati, Choorna, Avaleha* were discovered to fulfil furthermore demands like palatability, long shelf life, easy dispensation and handling etc. *Choorna* is one among such *Upakalpana* obtained by pounding dry drugs [2] and filtering them. *Sitopaladhi Choorna* is one such *Choorna* which shows significant effect in respiratory system diseases. *Sitopaladi Choorna* [3,4,5] mentioned *in Rajayakshmadhikara*[6] shows significant effect in respiratory system diseases. It finds a place in *Shwasa, Kasa, Kshaya, Supthajihwatwa, Aruchi*, *Mandagni, Parshwashula* etc. Even though it is being an extensively prescribed formulation, it has got certain demerits like poor palatability, mixing of adjuvant, refusal for intake due to *Katurasa* and it also involves rigorous task of carrying drug along with honey. Thus, there is need to modify this *Choorna* to *Lehya* form. *Avaleha* is the most common *Upakalpana* gaining more admiration because of its palatability due to addition of sweetening agents, easy mode of administration, long shelf life[7] better drug absorption in oral cavity and convenience for handling and administration. However, the acceptance of this product is beyond age limits. Thus, here an effort is made to modify classical form of *Choorna* to conventional form of *Lehya*.

Materials and Methods

The pharmaceutical study and analytical study are the two methods adopted in this work. In pharmaceutical study aspect, *Sitopaladi Choorna* and *Lehya* were prepared and observations were noted. In the analytical study, different parameters mentioned for assessment of *Choorna* and *Lehya* were carried out. The drugs required for the preparation were collected from Alvas Ayurveda Pharmacy, Mijar. Authentication of drugs was done in the Department of Dravya Guna, Alvas Ayurveda Medical College, Moodubidire.

Pharmaceutical study

The preparation of *Sitopaladi Choorna* was done at laboratory of *Rasashastra* and *Bhaishajya Kalpana*, Alvas Ayurveda Medical College, Moodubidire as per the classical reference.

Preparation of *Sitopaladi Lehya*: *Pippali Kashaya* is prepared as per classics, that is 400 g of *Pippali Yavakuta Choorna* is boiled in 3200 ml of water and is reduced to half.1600 g of fine powder of sugar is added and dissolved.400 ml of *Ghritha* is added to the preparation just before obtaining *Lehya Paaka Sidddhi Lakshanas* .As *Avaleha* attains it's *Paaka Lakshanas*, fine powders of 800 g of *Vamshalochana*, 200g of *Ela* and 100g of *Twak* are added with constant stirring. Then the vessel is taken out of fire and allowed to cool. Honey is added to preparation after it's completely cooled. Then it is packed in airtight wide mouthed container. The obtained *Lehya* has got all leha *Paaka Siddhi Lakshanas.*

Analytical Study

The pharmaceutical analysis of *Sitopaladi Choorna* was done with parameters like total ash, acid insoluble ash, alcohol soluble extract, water soluble extract and pH. The pharmaceutical analysis of *Sitopaladi Lehya* with parameters like loss on drying at 105 degree Celsius, acid insoluble ash, total ash, fixed oil, reducing sugar and pH were done as per the Ayurvedic Pharmacopoeia of India[8].

Results

1) Pharmaceutical Study

Table 1

a) Orgranoleptic characters of Sitopaladi Choorna are as shown in the Table 1

Sl. No.	DESCRIPTIONS	RESULTS
1.	Form	Fine Powder
2.	Colour	Greyish
3.	Odour	Characteristic Aromatic Odour
4.	Taste	Sweet, Pungent And Astringent

Table 2

b) Organoleptic characteristics of *Sitopaladi Lehya* are as shown in the Table 2

Sl. No.	DESCRIPTIONS	RESULTS
1.	Form	Semisolid
2.	Colour	Blackish brown
3.	Odour	Characteristic Aromatic Odour
4.	Taste	Sweet, Pungent and Astringent

2) **Analytical results**

Table 3

a) Physico chemical analysis of *Sitopaladhi Choorna* are as shown in the Table 3

Sl. No.	DESCRIPTIONS	RESULTS
1.	Loss on drying at 105*	10%
2.	pH Value	6
3.	Water soluble extract	30%
4.	Alcohol soluble extract	5%
5.	Total ash	6%
6.	Acid insoluble ash	1%

Table 4

b) Physico chemical analysis of *Sitopaladi Lehya* are as shown in the Table 4

Sl. No.	DESCRIPTIONS	RESULTS
1.	Loss on drying at 105*	40%
2.	pH Value	7.4
3.	Total ash	0.49%
4.	Acid insoluble ash	0.049%
5.	Fixed Oil	Present
6.	Reducing Sugar	Present

DISCUSSION

In Ayurveda, *Bhaishajya Kalpana* is a branch which deals with the transformation of standard raw drugs to the different preparations like *Choorna* and *Avaleha. In Avaleha Kalpana,* the liquid media of *Aushadha Dravyas* added with sweetening agents, lipid medium, powdered form of additives along with honey. Later on, *Asanna Paaka Lakshanas* and *Leha Paaka Sidddhi Lakshanas* are noted. Whereas in *Choorna* preparation, finely powdered drugs are mixed according to the ratio. Different analytical studies were carried out. The organoleptic character of *Sitopaladi Choorna* showed greyish colour, sweet, pungent and astringent taste with characteristic aromatic odour whereas in *Sitopaladi Lehya* it is blackish brown in colour, sweetish pungent taste with characteristic aromatic odour. The ash value determines the identity and cleanliness of drug and the value is 6% and 0.49 % for *Choorna* and *Lehya* respectively. The acid insoluble ash indicates the presence of inorganic matter as impurity in which *Choorna* and *Lehya* showed only 1% and 0.049% respectively. The pH of *Lehya* being 7.4 moves towards alkaline property, thus have a good move towards palatability. It is noticed that shelf life of *Lehya* is comparatively more than *Choorna* form due to addition of sweetening agent that is sugar. *Lehya* has shown faster absorption than *Choorna* due to its semisolid consistency.

CONCLUSION

Here the well-known *Sitopaladi Choorna* is modified into *lehya* form. *Sitopaladi Choorna and Lehya are prepared according to classical reference and is subjected to pharmaceutico analytical study with different parameters. Lehya* are having better palatability and it is widely accepted even by the children because of its sweet taste. It is also noticed that shelf life of *Lehya* is comparatively more than *Choorna* form. It is also proved that liquids and semi solid act faster than solids because of faster absorption. To get protected from early deterioration the *lehya* consist of concentrated sugar solution and honey. Thus, here the *Lehya* form of classical formulation *Sitopaladi Choorna* is prepared and analysed. These preparations can be utilized for clinical trial and upper hand of preparation one over the other can be documented and recommended for wider therapeutic use.

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