



AN OVERVIEW IN MODIFICATION OF AYURVEDIC DOSAGE FORMS

* **Dr. Abhaya Kumar Mishra** – Guide and Associate Professor, ** **Dr. K. Unnikrishna Pillai** – Professor & HOD, *** **Dr. Krishnapriya. K. L.** – Second Year PG Scholar,
Department of Rasashastra and Bhaishajya Kalpana, Amrita school of Ayurveda, Kollam, Kerala

ABSTRACT

While going through history, we can understand that addition of new dosage forms, transformation of dosage forms, etc. in Ayurveda were introduced & applied by different Acharyas at different time period. Evolution of dosage forms includes the wide range of modification from Vedic period to Modern era in Ayurveda¹. Now-a-days, the transformation of classical preparations into modified forms like Tablets, Capsule, Syrup, etc. can be seen. These kinds of modifications are the result of industrialization. Nano Bhasma, Transdermal Patch, Inhalers, Ayurvedic Films and Strips etc. are some of the upcoming new dosage forms in Ayurveda. To globalize Ayurveda, these kinds of innovations are needed. Knowledge of Biotechnology, Biochemistry, etc. by Ayurveda students & practitioners will help in formulating these kinds of dosage forms.

Key Words: Dosage Forms, Nano Bhasma, Films and Strips.

INTRODUCTION

Completed forms of the pharmaceutical preparations in which prescribed doses of medications are included are known as dosage forms. These dosage forms are divided into solid dosage form, liquid dosage form and semi-solid dosage form according to their physical form. Transformation of drugs into dosage form is based on so many reasons like palatability, easy absorption, easy for handling, etc. In Ayurveda, there are many kinds of dosage forms which are introduced by our *Acharyas* at different time period and had given names as different *Kalpanas*. With the advancement of modern pharmaceutical sciences, new concepts, new dosage forms and various administration methods have evolved. Now-a-days we are also adopting some techniques from other sciences to modify our medicines. Evolution of dosage forms includes the wide range of modification in medication from *Vedic* period to Modern era. 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.

EVOLUTION IN BHAISHJYA KALPANA

In *Vedic* period mentioning of different kinds of Medicinal Plants, like ‘*Soma*’ and its qualities, etc. can be seen². Some of the medicinal plants which are mentioned at that time are not even identified these days. But those were briefly mentioned. Coming to *Samhitha* period, we can see the descriptions of *Panchavidha Kashaya Kalpana*, *Sandhana Kalpana*, *Sneha Kalpana*,

Ayaskriti, Anna Kalpana, Kshara Kalpana, Leha Kalpana, Basti Kalpana, etc. in detailed manner. But these are scattered in many of the text books.

Sharngadhara Samhitha compiled these in very detailed and in systematic manner. *Chakradatta* added the concept of *Parpati* for the first time. So *Parpati* was an innovative idea at that time. Now we can see the transformation and modification of classical forms in modern era.

EVOLUTION IN RASA SHASTRA

During the time of *Vedas*, we got some references of *Parada* and other metals like gold, etc.³ Coming to *Samhitha* time, detailed descriptions of metals and minerals and their different *samskaras* can be seen. Classical text books of *Rasashastra* like *Rasaratna Samuchaya*, *Rasatharangini*, etc. mentioned about *Parada*, classification of *Rasa Dravyas*, different formulations in detailed manner. Influence of Siddha and Unani medicines also can be seen. For example, *Malahara* is the dosage form which was adopted from Unani dosage form called '*Marham*'⁴. In Modern era, we can see the modifications in *Khalweeya Rasayana*, *Pottalies*, etc. in their form.

Now-a-days, transformation of classical preparations into modified forms can be seen. These modifications are due to large scale industrial production and due to implementation of new technologies. Modifications seen generally in market are as follows.

KASHAYA - Concentrated *Kashayas*, *Kashaya Tablets*, *Sookshma Choornas*, etc.

CHOORNAS - Capsules, Tablets, Syrup, Granules.

BHASMAS - Capsule, Tablets.

THAILA - Ointments, Liniments, Soft gel capsules, Creams, etc.

OTHERS - Different kinds of shampoos, sanitizers, eye-drops, hair-creams, gels, etc.

BENEFITS OF MODIFICATION

Now trend of globalization can be seen in each and everything in this world. So to globalize Ayurveda, modifications are essential. With the industrialization in Ayurveda, we implemented so many machineries which will reduce time of production and also cost. Modifications also help in improving palatability. Through new technologies, we can increase the shelf life of medicines. More over transportation becomes easy in case of modified dosage forms.

RECENT RESEARCH WORKS IN DOSAGE FORM DEVELOPMENT

There are so many research works going on all over India by different Govt. agencies and also by private institutions, in Ayurvedic dosage form development. Rajeev Gandhi Centre for Biotechnology developed a new Ayurvedic mouth wash for oral cancer. This mouth wash is prepared out of *Triphala*, *Madhuyashti*, & *Nimba*. This is very convenient form application.

NANOTECHNOLOGY IN AYURVEDA

Coming era is known for implementation of nanotechnology. Modern medicine is using the benefits of nanotechnology and developed a branch called Nano medicine. Incorporating Nanotechnology in Ayurvedic medicines will increase the pharmacokinetic actions of the medicine. Upcoming researches based on nanotechnology include Nano bhasma, Ayurvedic transdermal patches, Inhalers etc. In case of bhasma, many scientific studies are proving that bhasma particles are nano in size. Usually bhasma production takes long time duration. Implimenting techniques of nanotechnology in *bhasma nirmana* will reduce the time of production of *bhasma* and also increase pharmacokinetic action.

NEED OF RESEARCH IN MODIFICATION OF DOSAGE FORM

There are so many innovative researches happening in modern medicine and in. In future we can expect more Ayurveda - both in dosage form development and drug delivery modified forms in Ayurveda. Earlier in Ayurveda, Acharyas practiced some kinds of Ayurvedic injections. But they are banned due to lack of scientific base. So these kinds of misleads can be avoided by researches. Now-a-days, there is trend that researchers working in the field of Biotechnology, Biochemistry, etc. are doing researches with Ayurvedic medicine and taking patency. At the same time research works done by Ayurvedic researchers are not getting enough funds or rejected because of lack of scientific proofs.

CONCLUSION

Acharyas have added new innovative dosage forms from own ideas & also from other systems. Similarly, we can make new dosage forms by the help of modern technologies or by our own ideas. There is a wide area of research which helps to prove the advantages & disadvantages. Acharyas had given advices to take the good perspectives of other systems to upgrade our system. Knowledge of modern pharmaceuticals, biotechnology, biochemistry, etc. by Ayurveda students & practitioners will help in formulating this kind of dosage forms.

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