

Utility of Samskara in pharmaceuticals w.s.r to Sandhana Kalpana

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ABSTRACT

Asavas and Arishtas, the main products of Sandhana Kalpana is quite popular in the community of Ayurvedic physicians due to their action at the level of deeper dhatus, the liquid dose form easier for ingestion to all age group and moreover with long self life. This Kalpana is utilizing multitude of Samskara.

Key words: Asava , Arista , Sandhana, Samskara.

INTRODUCTION

Samskara is one of the important concepts of Ayurveda. The importance of samskara can be ascertained from the fact that, routinely used Gurvadi gunas can be modified with the help of Samskara. For this matter, its Significance has been identified even with the routine food as one of the factor of Astau ahara-vidhi-visesa-ayatanas. The concept of Samskara according to Acharya Charaka is -

Samskaro hi Gunantradhana uchyata –
(Ca.Vi.1/21)

The Samskara performed in this way superimpose various guans due to metamorphosis in the nature of a dravya which is explained by the term gunanatradhana. This metamorphosis is manifested in terms of change in guans. Thus samskara are meant for physical as well as chemical changes. These guans are the manifestation of pancabhautika composition.

Samsiddhika guna - forever stable
Naimittika guna - can be altered by samskara.

The variation with Samskara as the root cause can be rationally deducted with the help of Pancamahabhuta Siddhanta.

Usually Guna-Karma of any dravya depends on Conjugation and configuration of Mahabhutas present in it. This Pharmacology can be modified with Samskara due to alteration in pancabhautika composition. A clear cut understanding of the Samskara with the exposition of Pacamahabhuta will give the Physician, an advantage to confidently employ the Samskara. Here in this paper an attempt has been made to understand basic concept of samskara and its utility in the field of pharmaceuticals.

WHAT IS SAMSKARA ?

Nirukti of Samskara can be given as

Samyak Karoti anena iti Samskarah

Sanskriyate anena iti sanskarah

The process or tool by which Dravya is modified as required is termed as Samskara.

DEFINITION : The definitions of Samskara given by Various Ayurvedic scholars are as follows:-
Samskaro hi Gunantradhana uchyata (Ca.Vi. 1/21)

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Acarya Caraka defines Samskara as transformation of the inherent attributes of a substance. Various commentators have tried to define Samskara as follows:

Cakrapani quotes it as -

Samskaro hi Gunantradhana uchyata
(Ca. Vi. 1/21)

i.e. imbibing different Gunas on the original Gunas of a Dravya.

Gunadhanam doshapariharo va Sanskarah A.D.
5/1/36-44)

i.e. increasing useful gunas and removing harmful dosa. According to Cakrapani, This above said gunantaradhana (change in gunas) by Samskara is possible only in case of naimittika gunas, not in the case of samsiddhika gunas.

LITERARY REVIEW OF SAMSKARA VEDIKA KALA

In vedic kala references are found showing different Samskara involved in method of preparation. 'Soma Nirmana. Vidhi' is one of the well known example in which various Samskaras like Kuttan, Pesana, Nispidana are there, though not mentioned separately as a Samskara.

SAMHITA KALA

In Brhat-trayi, directly types of Samskara are not mentioned. In Samhita kala also, at majority of the places Samskara word is used for different processes such as Svedana, Mardana, Bhavana, Manthana etc.

In Caraka Samhita, the oldest treatise of Ayurveda, after quoting definition of Samskara, a list of various processes useful for making Gunantaradhana are given.

Though Susruta Samhita and Astanga Hrdaya had not contributed much about the types and concept of Samskara, Astanga Samgraha had given good contribution by mentioning various (22) examples of Samskara collected at one place

i.e. in Sutra Sthana 7th Chapter (221 to 231verse).

DARSANA

In Vaisesika Darsana 3 types of Samskara are mentioned, which are as follows:-

1. Vegakhya Samskara
2. Sthiti Sthapaka Samskara
3. Bhavnakhya Samskara

ROLE OF AGNI IN TRANSFORMATION OF GUNA

Every dravya is having its specific pancabhautika composition. The alteration in pancabhautika composition is taking place at every moment, due to Agni Mahabhuta present in it. But rate of transformation or alteration is too slow to identify. After specific period only, these alterations are identified in the form of decrease of potency etc. For e.g. Drugs which are potent becomes less potent after some period. Potency of Curnas of any dravya remains for specific period of 6 months. Moreover, the factors outside like desa, kala etc, are also affecting the pancamahabhutas present in a dravya. So, after thinking minutely, it becomes clear that after change in dravya (in the form of alteration in pancabhautika composition) Change in guans takes place, which is called as gunantaradhana.

At the level of Pancamahabhutas, Prthvi is adhara for all the process and Akasa is providing space for that. Remaining three Mahabhutas, namely Jala, Agni and Vayu are responsible for transformations or changes taking place in a substance. So, in any Pancabhautika substance also, continuous changes or transformations are taking place due to presence of Agni Mahabhuta in it. But the rate of transformation may differ according to quantity of Agni Mahabhuta present in it and other helpful conditions. By providing Agni from outside, one can increase the rate of transformation, Followed by Vayu and Jala Mahabhutas respectively.

That's why in all the process mentioned as a Samskara, Toya Sannikarsa and/or Agni Sannikarsa are Mandatory. The proportion and amount may differ in different processes.

Here, it is also important to note that, during process of transformation either heat is formed i.e. liberated, known as exothermic reaction or heat is required for the process of transformation, known as endothermic reaction. The difference between transformation and Samskara is that transformation can takes place in any manner forming any dravya. But Samskara is making transformation in a proper way, by providing required conditions, to get the expected resultant. Thus process which is creatively done in proper way is termed as Samskara.

So, in a broad sense, Samskara as a process can be classified under following 3 headings

1. Toya Sannikarsa
2. Agni Sannikarsa
3. Toyagni Sannikarsa

Samskara

<i>Toyasannikarsa</i>	<i>Agni sannikarsa Toyagnisannikarsa</i>	
Sauca	Desa	Manthana
Dhavana	Kala	Bhavana
Nimajjana	Kalaprakarsa	Nirvavana
Sincana	Paka	Pesana
Vasana etc.	Daha	Svedana etc.
Avapana	Mardana	
	Sosana etc	

UTILITY OF SAMSKARA IN PHARMACEUTICS

In this era of modernization and civilization, the people are becoming more aware about the usefulness of Ayurvedic drugs and formulations. So, everyday new Ayurvedic Pharmacies are getting established. Demand for Ayurvedic drugs is increasing day by day. In current era, many of the valuable drugs mentioned in Ayurvedic classics are unavailable or rarely available due to these reasons. If this process will go on continuing, the time will come that very less drugs will be

available, Scope of the concept of Samskara lies in the broader use of dravya's i.e. with minimum cost maximum effects obtained. As with the help of Samskara, one can alter Pancabhautika composition, thereby forming various new dravya from a single dravya as per requirement, a broad field is obtained for the use of single drug in treatment of different diseases as well as different stages of the same disease.

By use of this concept only, one is able to use toxic substances as medicines and if Samskara is not done properly, the medicine can act as a toxic substance.

YOGATA API VISHAM TIKSHNAM UTTAMAM BHESAJAM BHAVET (CA.SU. 1/126)

Samskara as a Guna is a causative factor responsible for new ability introduced in a dravya. As karma, Samskara is a process or method of introducing new ability in a dravya.

The drug can be made effective according to different diseases or different stages of the same disease, (i.e. Yogyatva) & potency can be increased by giving bhavana of same drug (i.e.Sampat). In short, to increase qualities of bhesaja, Samskara is the only important tool which is in the hands of physician.

Acharya Charaka had mentioned samskara in paradi guans, which are called as Cikitsopayogi guans. This indicates importance of Samskara in the treatment modality.

Samskara is also one of the important factor of Astau-AharaVidhivisesa ayatanas, indicating it's importance in dietetic field.

Any Samskara could not be employed to any dravya. for e.g. The dravyas having apa mahabhuta dominance will be more effective in cold infusion i.e. Hima kalpana. Dravyas having agni mahabhuta dominance will be more effective in hot infusion i.e. phanta kalpana. But this is again depends on the patient, type of disease, stage of disease, status of dosas etc. in which dravya is to be used. So, it cannot be the firm rule that such type of

samskara should be employed to such type of mahabhuta dominant

Acharya caraka says that-

Changes as per requirement - by skillfully carrying out synthetic and analytic procedures on drugs with the help of

(a) Time factor & (b) by pharmaceutical processes i.e. Samskara, even a small dose of a drug may produce powerful action and a big dose of medication may produce very mild results.

A drug, even though small in measure becomes great in its action, if well impregnated. Therefore, drugs should be impregnated either with their own expressed juice or The expressed juice of the drugs of similar potency

1. Alpesaya api Mahartatvam e.g. to increase seeta & dahasamaka guna of Pravala (coral), bhavana of gulaba jala (rose water) is given, which is having seeta & dahasaman property.
2. Prabhutasaya alpkrmatam e.g To reduce excessive Usna, teeksna gunas of gandhaka (sulphur) Sodhana samskara is done with the help of milk and ghee which are having seeta & manda properties. Thus Entirely new gunas get manifested in a dravya after samskara.

e.g. Vrihi which is guru & pitta-dosa vitiating, becomes laghu & pitta-dosa alleviating after agni-samskara. So, here entirely new gunas get manifested after Samskara.

Ghee is able to do thousands of functions if processed accordingly. (Ca. Su. 27/232).

Taila is told to be Sarvarogapaham i.e. curing all the diseases, if proper Samskara & Samyoga is done according to disease. (Ca Su. 27/287).

This may be one of the causes that in Ayurvedic texts, especially caraka samhita, most of the preparations are found in taila or ghee form.

IMPORTANCE OF SAMSKARA IN SANDHANA KALPANA

Asavas and Arishtas, the main products of Sandhana Kalpana is quite popular in the

community of Ayurvedic physicians due to their action at the level of deeper dhatus, the liquid dose form easier for ingestion to all age group and moreover with long self life. This Kalpana is utilizing multitude of Samskara

The Samskaras utilized in different steps while preparing Asava-Arishta Kalpana or all the procedures performed during formulation may be divided into:

Purva Karma

Pradhana Karma

Paschat Karma

1. Purva-karma includes -

A. Selection of Sandhana Patra (container) - Bhajana samskara

Dhupana - Saucha&vasana samskara

Lepana - Saucha samskara

Collection of drugs - Desa&Kala samskara

2. Pradhana-karma includes -

Drava Dravya - Toya sannikarsa

Madhura Dravya

Sandhana Dravya - Agni sannikarsa

Prakshepa Dravya

Filling and sealing of Patra

Sthanavimarsha (placing of Sandhana Patra) -Desa samskara

Sandhana Kala (Duration of Sandhana) - Kala samskara

3. Paschat-karma includes -

Observations (Sandhana Pariksha)

Filtration

Maturation - Kala prakarsha

Storage

Bhajana samskara (selection of fermenter)

The containers used for fermentation were made of mud, metal (Loha, Tamra, Suvarna), Wood, Porcelain and recently Plastic & Steel have been superseded all above the material. , the nature of the interior surface of the container plays a significant role providing the minute crevices essential to build up a colony in the initial stages.

Wooden vessels may contribute to the aroma and color when same fermentation is carried out on repeated batches; porcelain containers seems to effectively resist variation of the external temperature. But most importantly why the wooden and earthen pots gained popularity was due to their slightly rougher internal surface which assists in logging of the micro-organisms, assisting in the colony formation thus accelerating the overall reaction due to faster growth of the micro-organisms.

Saucha & vasana samskara (sterilization & fumigation).

Dhupana lepana of purva karma can be included in this category. Prevention of the naturally occurring microbial flora in and around the fermenter to avoid contamination is achieved by Dhupana. The utensils are fumigated (Dhupana) with different drugs such as Guggulu, Jatamansi, Vaca, Aguru, Nimbatwak, Candana, Karpura, etc. The concept of Lepana seems to provide the local antiseptic action in the fermenter vessel needed even after fumigation procedure. The compounds used are Tikshna, with antimicrobial properties attributed to their pharmacological action along with Ghrita or Madhu which besides their slight disinfectant property, acts as base material. Also, role of Ghrita as an alternate carbon source for the microbial metabolism enhancing the growth rate. If the fermentation is invaded by a foreign micro-organism, it may support the growth of both the production organism and the contaminant, resulting in loss of productivity. Contaminant may degrade the desired product or may lead to lysis of the culture. Thus maintenance of aseptic conditions during the fermentation are mandatory. Vasana samskara also gives good fragrance to the finished product & increases therapeutic efficacy due to its volatile contents.

Desa samskara (collection of drug & placing of patra).

Collection of drugs & Placing of sandhana patra can be kept under this samskara. In Caraka vimanasthana chapter 8th acharya narrates the qualities of a drug. That the drug that is to be used

for the purpose of medication should be from the specific land and from specific climate. In short they were well acquainted with the importance of land for the growth of plant. they were also familiar regarding panch-bhautika constitution of land which goes to make specific rasapanchaka of a plant, and finally rasa panchaka is the governing unit of pharmaco-kinetics and pharmacodynamics of a plant. To maintain uniformity of temperature throughout the fermentation process containers are said to be kept inside the heap of barley dry grass or inside the ground etc. It is established fact that the fermenting microbes are highly sensitive to wide temperature fluctuations and by this easily get damaged rather than sustained slightly higher or lower than required temperature. Nowadays temperature requirements are easily met with steam or cold jackets to the fermenter vessel and the temperature to be maintained depends on the strain of the micro-organisms, usually ranging from 25°C - 35°C.

KALA SAMSKARA (DURATION)

The time required for completion of fermentation is said to vary from season to season as well as from preparation to preparation. According to text minimum time limit is of seven days & maximum is six months.

However the concept of Kala Samskara needs more deliberation given with the intelligent excerpt from Sharangadhara Samhita which reads: Toya Sannikarsha.

Toya is the synonym of water. it is a good solvent for the preparation of kwatha & swarasa. Active ingredients firstly dissolve in water, so water used should be of good quality and free from all contamination.), Jala Mahabhuta is required to soften the hardness present in Parthiva Dravyas. Also Jala Mahabhuta penetrates into Parthiva dravya and loosens the molecular bonding, thereby accumulating space present in between molecules. When assessing the suitability of a water supply, it is important to consider pH, dissolved salts and effluent contamination. The mineral content of the water is very important in the fermentation process.

AGNI SANNIKARSHA

The main division of madya kalpana into asava and arista is based on agni sannikarsa, but it is not true in every case.

Acharya Sharangadhara clearly defines Asava as Madya, which is prepared without boiling the drug in water.

Kwatha Kalpana or the boiled/ cooked source material is used in the process. Chakrapani also opines that Arishtas are prepared with Aushadha-Kwatha along with Madhu, etc. The Kwatha nirmana determines the process of fermentation and has impact on the final fermented product-the biomass. Quantum of heat and the duration of heating are of prime concern for Kwatha nirmana. The purpose is to drive the therapeutically active principles from the source drug up to maximum possible extent but without damaging/ denaturing any of the useful constituents in the process.

KALA PRAKARSHA (MATURATION)

After proper filtration, the liquid is kept for a few days to allow the suspended sediments if any, to settle down and again filtered to separate the sediment. As cited earlier, maturation or ageing adds to the Organoleptic characters which is desirable apart from the therapeutic benefits. Reduced nutrients leading to starvation phase for the microbial growth triggers adaptive changes even at the genetic level and the microbes thus sustain themselves over a very long period of time. Besides the changes occurring in the biomass-constituents are increasingly getting documented establishing the positive role of maturation.

DISCUSSION

Thus pharmaco dynamics and pharmaco kinetics of a dravya depends on its Pancabhautika composition. This pharmacology can be modified with the help of Samskara.

For the formation of new dravyas through alteration in Pancabhautika composition one has

mainly two things i.e. selection of proper drug & selection of proper Samskara. By Samskara, one can make changes in the Pancabhutika composition of a dravya outside the body. When the dravya is taken inside the body, it is subjected to changes in pancabhautika composition at different levels of agni i.e. Jatharagni, Bhautikagni, Dhatvagni etc. Thus, various new dravyas having different guna - karmas can be created by employing different samskaras to dravyas. Selection of proper samskara for any dravya will depend on Mahabhuta dominance & configuration of Mahabhutas of that dravya. Any Samskara could not be employed to any dravya. Selection of Samskara will also depend on the patient, type of disease, stage of disease, status of dosadi etc.

CONCLUSION

Samskara and Gunantradhana are the prime essentials of ancient ideology. Samskara is the process to modify the natural properties of the substances. Acharya Caraka defines Samskara as transformation of inherent attributes of a substance. This is created by dilution, application of heat, cleansing, churning, storing in a specific place, maturing, flavoring, impregnation, preservation, container etc.

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