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REVIEW ARTICLE

FACETS OF *SNEHA MURCHHANA SANSKARA*– A REVIEW

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ABSTRACT

Background: *Sneha Kalpana* is a formulation that is highly used in the Ayurvedic fraternity as it incorporates both water and lipid soluble active constituents of the medicine. Widely acclaimed for its therapeutic efficacy, *Sneha Kalpanas* have made an irreplaceable niche in the treatment of the patients. *Murchhana Sanskara* is an ancillary procedure of *Sneha Paka* that had been added in the Ayurvedic text Bhaisajya Ratnavali. The text started the trend of emphasising the *Sneha Murchhana Sanskara* which is supposed to remove unwanted products or *Doshas* in the crude *Sneha*. **Aim:** The current attempt is aimed to compile such works done with *Sneha Murchhana* and to establish the rationale behind *Murchhana Sanskara.* **Materials and Methods:** The studies that included analytical and clinical studies of *Murchhana Sanskara* of *Sneha* in comparison with *Amurchhita Sneha* were included in the current work. The works included were collected from IPGT&RA and those available in the journals from internet. **Results:** In all the studies, the results showed that *Murchhana Sanskara* helped in changing analytical parameters which finally helped in increasing the stability and efficacy of the formulations. **Conclusion:** On the basis of observations and results, it can be concluded that *Sneha Murchhana* has a positive impact and should be considered an integral part of *Sneha Paka*.

KEYWORDS: *Murchhana, Sanskara, Sneha,* Stability

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INTRODUCTION

Sanskara is a term used to denote any process that helps in refining and inducing qualitative improvement in the subject of interest. *Sanskara* helps in changing the qualities and improvising the value of the concerned. In Ayurveda, *Sanskara* term has been implied for a number of things. In terms of *Parada Shodhana*, *Sanskara* denotes a series of consequent steps undertaken to remove various classes of *Doshas* from *Parada*. In Ayurveda, the word *Sanskara* has been also introduced as a phenomena that helps in infusing and enhancing the potentialities of various *Dravyas* or *Aushadhi*s [1]. In point of research of a new drug, the raw drug needs to be transformed to a dosage form with increased potency and efficacy which is also termed as *Sanskara*. Among the *Kalpanas* of Ayurveda, *Sneha Kalpana* also includes *Murchhana Sanskara* [2]. *Sneha Kalpana* is a form of secondary *Kalpana* that usually incorporates *Kalka*(semi-solid paste), *Sneha*(oleaginous substance) and *Kwatha* or *Swarasa*(liquid), cooked for a certain duration of time using certain quanta of heat designed to induce transfer of both lipid and water soluble active principles. Aim of this arrangement is mass transfer of the aqueous and lipid-soluble active principles of all treated herbal drugs and material of animal and mineral origin, if any, in accordance of established formulae quoted in authoritative text books of *Ayurveda* which should serve therapeutic objectives as per indications of the classical treatise of *Ayurveda* [3]. *Sneha Siddha* (fat soluble) drugs have better pharmacokinetic action (ADME) in comparison to other dosage forms because of the lipoid nature of the biomembranes, as lipid soluble substances readily permeate into the cells [4].

MATERIALS AND METHODS

The studies which included *Murchhana Sanskara* and highlighted its significance were included in this work. The research works done at IPGT&RA and those available from journals in the internet which included analytical or clinical studies with *Murchhita Snehas* were compiled, screened and assessed to note the changes that *Murchhana Sanskara* brought in the *Siddha Sneha*. These studies were limited to a few in number and results obtained can be considered as lead for further studies to confirm the findings as well as to throw light upon the relevance of *Sneha Murchhana Sanskara*.

REVIEW OF PREVIOUS WORKS

Barvaliya R et al [5] conducted a study to evaluate role of *Ghrita Murchhana* in Psoriasis. Study was divided in three Groups. Group A- *Panchatikta Ghrita* prepared with *Ghrita Murchhana* and *Triphala Kalka*, Group B – *Panchatikta Ghrita* prepared with *Ghrita Murchhana* and Group C –*Panchatikta Ghrita*

prepared without *Ghrita Murchhana* and *Triphala Kalka*. *Ghrita* was given in dose of 5 ml twice daily for 1 month. Total number of patient was 37. Comparative effect of study found marked improvement in 55.5% patients of Gp A, 35.93% in Gp B and 29.31% in Gp C.

Zala U et al [6] conducted a study to assess the comparative results of *Panchatikta Ghrita* prepared by three different methods on Psoriasis. Group A- *Panchatikta Ghrita* prepared by *Ghrita Murchhana* and *Triphala Kalka*, GroupB-*Panchatikta Ghrita* prepared by *Ghrita Murchhana*. Group C-*Panchatikta Ghrita* (Without *Ghrita Murchhana* and *Triphala Kalka*). 10 gm *Panchatikta Ghrita* was given for 1 month. Group A showed better result than other Groups. Marked improvement was seen in 50% in Group A, 28.57% in Group B and 33.33 in Group C.

Hiremath et al [7] conducted a study to assess the effect of *Murchhana Sanskara* in the preparation of *Hingutriguna Taila*. It was observed that specific gravity is increased in the medicated oil prepared with *Murchhita Eranda Taila* where as other analytical values like refractive index, saponification values and acid values are decreased, in comparison to the medicated oil prepared by taking ordinary *Eranda Taila* from market.

Pankaj Rai et al [8] conducted a study to study the role of *Murchhana Samskara* in the preparation of medicated *Ghrita* with special reference to *Panchtikta Ghrita.* It was observed that the value of specific gravity increased in *Murchhita Panchatikta Ghrita* but other analytical values like refractive index, saponification values and acid values were decreased.

Sunita Shailajan et al [9] conducted a study to assess standardization of *Shadbindu Taila*. The physicochemical parameters of *Krishna Tila Taila* (KTT), *Murchhita Krishna Tila Taila* (MKTT) and *Shadbindu Taila* (ST) were compared. In comparison with KTT, acid value, saponification value and unsaponifiable matter of MKTT and ST were increased while the iodine and peroxide values were decreased. There was no change observed in the refractive index and specific gravity of KTT, MKTT and ST; while variations in optical rotation were observed. The results were in compliance with some recently published reports on physicochemical analysis of some Ayurvedic *Taila* [10,11,12,13] .

Krishna Murthy et al [14] conducted a research on comparative pharmaco-chemical study of 1-7-50 *Avartita Ksheera-Bala-Taila* prepared by *Atibala*(*Abutilon indicum* Linn.) and its efficacy in the management of *Sandhigata Vata*. The unsaponifiable matter in

Murcchita Tila Taila was 0.61% w/w and it increased to 1.49% w/w in *Ksheera Bala Taila* 1st*Avartana* (KBT 1A). This further increased to 1.85 in *Ksheera Bala Taila* 7th*Avartana* (KBT

7A). But, the unsaponifiable matter was only 0.47% in *Ksheera Bala Taila* 50th*Avartana* (KBT 50A) sample. This may be because of complex nature of the final product.

Manisha Goyal et.al [15] conducted a research on a comparative pharmaceutico clinical study of *Karpanpatru Taila* prepared with different media and its effect on *Shvitra*. The analytical parameters showed that *Murchhita Sneha* had a prominent smell of *Manjistha* and attained a darker red colour from brown colour. The value of specific gravity increased after *Sneha Murchhana*.

DISCUSSION

Sneha Murchhana term was first coined in *Bhaisajya Ratnavali*. The *Murchhana Sanskara* of *Sneha* is a preliminary step done before *Sneha Paka* which is believed to impart desirable taste, colour and aroma to the *Sneha*. It is a process that is conducted to remove *Ama Dosha* and make the *Sneha* more acceptable in terms of various attributes like palatability, usage and therapeutics. *Ama Dosha* may be considered as unwanted component in the raw *Sneha*, like intermediate chemical constituents, dissolved gases, adulterants, plant toxins and moisture present in raw *Sneha* or developed due to long time storage. *Murchhana* helps in maintaining the necessary ratio of unsaturated and saturated fats suitable for human physiology [16]. Hence, *Sneha Murchhana Sanskara* should be done to prolong storage and quality of the formulation.

Murchhana of *Sneha* is done for the removal of *Ama Dosha* which inhibits lipid per oxidation and incorporates antioxidant property for augmentation of medicinal properties of the medicated *Taila/Ghrita. Murchhana* of *Ghrita*, *Tila Taila*, *Eranda Taila* and *Sarshapa Taila* have been mentioned in Bhaisajya Ratnavali. Powders of the associated drugs like roots of *Manjistha*(*Rubia cordifolia* Linn.), rhizomes of *Haridra* (*Curcuma longa* Linn.), stem barks of *Lodhra* (*Symplocos racemosa* Roxb.), stem bark of *Nalika* (*Cinnamomum zeylanicum* Blume.), dried pericarp of *Amalaki* (*Emblica officinalis* Gaertn.), dried pericarp of *Haritaki*(*Terminalia chebula* Retz), dried pericarpof *Vibhitaki*(*Teminalia belerica* Roxb.), inflorescence of *Ketaki*(*Pandanus odoratissimus* Linn.), rhizopores and tender buds of *Vata* (*Ficus bengalensis* Linn.),whole plant of *Hrivera*(*Valeriana hardwickii* Wall.), *Swarasa* (expressed juice) of *Matulunga*(*Citrus medica* var. acidica), rhizomes of *Musta* (*Cyprus rotundus* Linn.) are constituents of drugs that help in getting the *Sneha Murchhita*. The ingredients vary according to the Sneha that is to undergo *Murchhana Sanskara*.The *Murchhana Dravyas* like *Manjistha*, *Haridra* impart good colour and other ingredients like *Sugandhabala*,

Kevadamula impart good aroma and increase the medicinal value too.

One of the major unwanted changes that can occur during processing, distribution and storage of *Sneha* is lipid oxidation which causes a negative impact on the quality of the product. The oxidation can be controlled by antioxidants. *Manjistha* is usually added in a higher amount than rest of the drugs which may be due to the presence of an alkaloid called Rubiadine that helps to inhibit lipid per oxidation and has antioxidant property. The antioxidant properties of R. cordifolia extract for protection against lipid peroxidation and reduced glutathione (GSH) content in rat liver homogenate compared with vitamin E and parabenzoquinone (PBQ) [17].So it enhances the shelf life of the medicated *Taila*. Alcoholic extract of root of Rubiacordifolia and its constituent rubiadinwere found antioxidant property [18,19,20]. Hydroxyanthraquinones were the predominant antioxidant phenolic constituents in the root of R. cordifolia [21]. Likewise, T. chebula is an excellent anti-oxidant. In a study, 6 extracts and 4 pure compounds of T. chebula exhibited anti-lipid peroxidation, antisuperoxide radical formation and free radical scavenging activities at different magnitudes of potency [22]. The ethanolic extract of the fruits of T. chebula decreased the level of lipid peroxidase in albino rats [23]. The results demonstrated that triethylchebulate was a strong antioxidant and free-radical scavenger, which might contribute to the anti-oxidative ability of T. chebula [24].The extract of *Lodhra* has also showed strong suppressive effect on lipid per-oxidation [25]. Most of the drugs in the *Murchhana Sanskara* have anti-lipid peroxidation effect which help in maintaining the standard quality of the *Siddha Sneha* for a longer period of time.

Analytical Study

It is apparent that *Murchhana* alters the solubility pattern and absorbability, which is desired to get maximum medicinal properties [26]. The *Murchhita Sneha* appeared thicker and a characteristic odour was perceived.

Specific gravity of *Sneha* is indication of the solid to liquid ratio in *Sneha*. The increase in specific gravity in *Murchhita Sneha* may be due to solid extractives from the herbals added during the *Murchhana* process which reveals that solid content is increased in comparison to liquid in the *Murchhita Sneha.* The consistency of the *Sneha* after *Murchhana Sanskara* is denser. Less liquid content in preparation increases the life span of formulations as the presence of moisture leads to oxidation. Heating during *Murchhana Sanskara* also helps in removing the moisture present in the crude *Sneha*.

Saponification values and acid values are directly related to rancidity factor. Specifically,

it is the hydrolysis and/or autoxidation of fats into short-chain aldehydes and ketones which are objectionable in taste and odour [27]. When these processes occur in food, undesirable odours and flavours can result. In some cases, however, the flavours can be desirable (as in aged cheeses) [28]. Higher rancidity value indicates lesser shelf life and therapeutic value. Hence decreasing of these values will help in making the *Siddha Snehas* more stable and sustainable. More will be refractive index, there will be more concentration of light which facilitates rancidification of *Sneha.* During the process of *Murchhana* water and fat soluble extractives are added to the initial *Sneha* that enhances its medicinal properties. All the studies concluded that *Murchhana* process reduces degree of saturation of oils and enhances degree of unsaturation which reduces chances of decomposition and helps in increasing both life span and therapeutic value.

Clinical Study

The clinical studies of Barvaliya R et al and Zala U et al showed that *Murchhita Sneha* gave a better result than *Amurchhita Sneha*. Both the studies were conducted in Psoriasis and the relief was found to be better in terms of *Kandu*, *Daha*, *Vedana* and scaling in *Murchhita Snehas*. The augmentation of herbal drugs in *Murchhana Sanskara* may have provided a better potential to *Sneha* and may have increased the capacity of absorbing and retaining the active principles during the actual *Sneha Paka Vidhi*. Hence, *Sneha Murchhana* is a necessary step to amplify the therapeutic efficacy of *Siddha Sneha*.

CONCLUSION

The works compiled show a relatively higher potential of *Murchhita Sneha* in terms of therapeutic efficacy and stability. The analytical studies have proved that *Murchhana Sanskara* brings about changes in analytical parameters which ensure in lowering the chances of deterioration and oxidation of the components of *Siddha Sneha* (Medicated oils and fats). It can be seen that very few researches have been done in clinical field that compare the effect of *Murchhita* and *Amurchhita* Snehas. More research works need to be done in comparing the significance of Murchhana Sanskara in Sneha Kalpanas that are used internally as well as externally to validate its efficacy and stability.

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