



Review Article

BHAJANA SAMSKARA: A UNIQUE METHOD OF DRUG FORTIFICATION WITH ESSENTIAL METALS

Pooja Vashist^{1*}, Mahesh Vyas²

*1PG Scholar, ²Professor, Head of Department, Dept. of Samhita and Siddhant, All India Institute of Ayurveda, Delhi, India.

Article info
Article History: Received: 22-04-2023 Revised: 17-05-2023 Accepted: 30-05-2023
KEYWORDS: Bhajana Samskara, Metal, Fortification, Lepana, Resting.

ABSTRACT
Samskara is a key drug formulation technique in which a formulation is altered based on the *Prakriti* of the person and disease. Many types of *Samskara* have been mentioned among them *Bhajana samsakara* the unique one where container plays an important role in drug formulation. Different types of *Bhajana* techniques include cooking, resting, and storing. resting is a process in which *Kalaka/Kwatha* of pharmaceuticals is leaved or applied to various metal surfaces in order to fortified the properties of that metal into that formulation. A review of *Bhajana samskara*, specifically using the *Lepana* or resting technique, has been completed, and the possible role of different metals on different formulations has been examined. For this, various *Samhitas*, ancient books and an online search for the *Lepana* technique have been reviewed. This is a unique formulation approach that should be standardized, and study should also be conducted with other specific metals that have health benefits.

INTRODUCTION

Drug formulation is the integrated part of treatment according to Ayurveda, it is the responsibility of physician to make a formulation that not only suitable for its *Prakriti* but also have potency to treat the disease. *Samskara* is an Ayurvedic technique for altering a medication's physical and chemical qualities. *Samskara* is defined as *Gunaantardhana*, which is the process of metamorphosing a medication and transforming its properties into the desired form.^[1] The word *Samskara* has several connotations depending on the context. It is included in *Paradi Gunas*. According to Acharya Charaka, it is also referenced in "*Ashta Vidhi Vishesh Ayatanas*" as *Karana*. By Acharya Charaka, the word *Karana* is used for "*Bheshja*." Our Acharyas have indicated multiple types of *Samskara* that tend to convert the qualities of drug^[2].

1. *Toya Sannikarsha* – Drug processed with water
2. *Agni Sannikarsha* – Fire is used for processing

3. *Toyagni sannikarsha*– Both water and agni used for processing the drug
4. *Saucha* – Cleaning
5. *Manthana* - Churning
6. *Desha*– Different type of *Desha* used for processing
7. *Kala*- processing with time
8. *Vasana*-processing with proximity
9. *Bhavana*- Trituration
10. *Kalaprakarsha*- Exposing for specific time
11. *Bhajana*– Processing with using specific utensil

Bhajana Sanshkara

The medication enriched new properties when it contacts with a particular metal, in this case, a *Samskara* known as a *Bhajan samskara*. It is the most important and less explored method of drug preparation. The specific utensil directly affects the physicochemical properties of drugs for example if we put *Ghrita* in a copper vessel for 10 days it becomes poison similarly the vessel in which fish is cooked should not be used for cooking other things.^[3]

This is a unique process through which *Acharya* incorporates the desired property of metal container i.e., iron, copper, silver into the drug in order to increase the potency of the drug and make it a herbomineral preparation.

Access this article online	
Quick Response Code	https://doi.org/10.47070/ijapr.v11i5.2793
	Published by Mahadev Publications (Regd.) publication licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0)

Types of Bhajana Samskara

In ancient Ayurvedic texts, various types of different methods is used where Metal can be incorporated into the drug.

- 1. Preparation of Drugs** - Indication of specific metal container for mixing, cooking, resting of specific drug in order to increase the potency by chemical reaction between the metal and the drug or fortification of that metal into the formulation for example in *Astang sangreha Uttartantra loha patra* (iron utensil) is mentioned for *Jeevantiyati tail* preparation and tend to rest it for one month before therapeutic use^[4]. Again, *Shilajatuadi shodhan* is performed in *Loha patra* (iron utensil) according to *Astang hridaya*.^[5]
- 2. Storage of Drug**- For the storage of prepared formulation specific metal container or are indicated in order to increase its lifespan or fortified some special properties into it.

During the drug formulation, there are many preparations where resting of drug is done in a specific metal container as *Lepana* by making the paste of that formulation or by making a decoction of that

formulation and putting it into the specific container for certain time period. These procedures leach metal particles into the formulation or boost the efficacy of that formulation by chemical reaction. These novel medication formulation processes must be investigated and standardized in order to advance research and make them more applicable.

MATERIAL AND METHODS

Extensive search was carried out in Ayurvedic texts such as Charaka Samhitha, Sushruta Samhitha, Ashtanga Sangraha, Ashtanga Hridaya, Sharangadhara Samhitha, and Bhaishajya Ratnavali for different type of Bhajana Samskara stated for various preparations. Various search engines like PubMed, MEDLINE, Science Direct, Springer, Google Scholar, etc has also been searched for related data.

RESULTS

Acharya Charaka, Shusruta, Vagbhat and Bhaishajya Ratnavali have explained many drugs formulation where the method of drug preparation is *Lepana* and resting in a specific metal is indicated. Here is some methods by which different formulations are mentioned in different texts.

Ayah (Iron)	Charaka	Chi.29/153	<p>Vatashonitha Chikitsa In <i>Vatarakta Chikitsa Triphala, Trikatu, Patra, Citraka, Ela, Tvakksiri, Vaca, Vidanga, Pippalmula, Kasis</i>, etc are applied as paste in iron utensil in morning and eaten in noon.</p> <p>Sidhma Lepa <i>Kustha, Tamalapatra, Marica, Realgar, Kāsisa</i>- these mixed with oil should be kept in a copper vessel for a week. By anointing this followed by the exposure to the sun for a week one becomes pure in body and is freed from <i>Sidhma</i> and from recently arisen leucoderma if applied for a month.</p>
	Shushruta	Chi.25/31	<p>Neeli taila The content of the tail-all is powdered and mixed along with the mud (at the root) of the lotus plant. Now it is kept in a covered iron vessel in a room for a fortnight. Thereafter oil is cooked with it adding the juice of <i>Brigaraja</i> and decoction of <i>Triphalā</i> until the crane's feather becomes bee-blue. Then it is kept in a container made of iron for a month.</p> <p>Sahacharadi taila The decoction of ingredients is made and kept in an iron jar for ten days</p>
	Vagbhatt	Ut.13/52 Ut.39/103 Ut.39/169	<p>Jeevanthyadi tail This <i>Tail</i> is prepared in <i>Loha patra</i> and left for one month in same <i>Patra</i> and then used for <i>Urdhvajatrugata roga</i>.</p> <p>Pippali yoga Two <i>Karsha pippali</i> grind in milk then applied in <i>Loha patra</i> for overnight then mix it in 2 <i>Anjali</i> water then drink it for 1 year it acts as <i>Rasayana</i></p> <p>Narasimha Gritha Before preparing this <i>Ghritha</i> the <i>Dravyas</i> are leave for 3 days in <i>Lauha patra</i></p>

Bhaisajya Ratnawali	56/14	Triphala kalka ^[5] Put 6gm <i>Triphala kalka</i> in <i>Kanta loha patra</i> for one night then take it with <i>Madhu</i> or <i>Sarkara</i> . It is beneficial in <i>Kaph pitta vyadhi</i> and <i>Amla pitta</i> .
	60/75	Mahaneela taila All ingredients are put into <i>Bhringraj</i> oil and store them for 1 month in <i>Loha patra</i> in sunlight, beneficial in <i>Palitya roga shiro</i> and <i>Netra roga</i> .
	25/23	Bhuta bhairava rasa <i>Gandak</i> with other ingredients are cooked in low flame for 30 min. then allow to cool after that scrub out the drug and store.
	30/172	Rasa mandura After <i>Kajjali</i> formation in <i>Loha patra</i> all ingredients are mixed and <i>Mardit</i> after drying the powder is scrubbed out.
	56/14	Triphala kalka Put 6gm <i>Triphala kalka</i> in <i>Kanta loha patra</i> for one night then take it with <i>Madhu</i> or <i>Sarkara</i> . It is beneficial in <i>Kaph pitta vyadhi</i> and <i>Amla pitta</i> .
	60/75	Kesha krishnikarana yoga (Bhringa puspaadi lepa) Take flowers of <i>Bhringraj</i> and <i>Japa</i> grind them with sheep milk then put it into <i>Loha patra</i> and buried this pot underground for 1 week then <i>Lepa</i> into <i>Palitya</i> patients.
60/147	Mahaneela taila All ingredients are put into <i>Bhringraj</i> oil and store them for 1 month in <i>Loha patra</i> in sunlight, beneficial in <i>Palitya roga shiro</i> and <i>Netra roga</i> .	

Tamra patra Mentioned in Various Samhitas for Preparation of Drugs

Tamra	Charaka	Chi.26/255	Sidhma lepa <i>Kustha, Tamālapatra, Marica, Realgar, Kāsisa</i> - these mixed with oil should be kept in a copper vessel for a week. By anointing this followed by the exposure to the sun for a week one becomes pure in body and is freed from <i>Sidhma</i> and from recently arisen leucoderma if applied for a month. Drsti-pradā varti <i>Haritaki, Vibhītaka, Āmalaki</i> , shell of hen's egg, <i>Kāsisa, Lauha Bhasma, Nilotpala, Vidanga</i> and <i>Samudra-phena</i> should be made to a paste by triturating them with goat's milk, and smeared over a copper pot. This should be kept for seven nights. This paste should be scrapped out the copper plate, triturated with goat's milk again, and rolled into the form of <i>Varti</i> (bougie). This is called <i>Drsti-pradā varti</i> .
	Shushruta	Ut. 12/40 Ut.18/104	Sashopha/Ashopha Akshipakatyaya Chikitsa Ghee kept in a copper vessel for a month mixed with <i>Saindhava</i> ; <i>Saindhava</i> and copper mixed with breast milk. Anjana The black portion obtain after rubbing the bell metal <i>Madhuka, Saindhava</i> and <i>Eranda</i> root in equal parts and <i>Brhati</i> two parts with goat milk and then pasted on copper vessels this should be repeated seven times now rod is made it is used for alleviate eye disease.

Vagbhata	Chi.19/73	Sidhma lepa All <i>Dravyas</i> are mix with tail then put it into <i>Tamra patra</i> for 1 week.
	Ut.11/40	Mahaneeli gutika The <i>Kwath</i> of all <i>Dravyas</i> are applied on <i>Tamra patra</i> for <i>Doopan</i> is done.
	Ut.39/150	Lohabhasmaadi rasayana The <i>Churna</i> of <i>Vyovidanga</i> and <i>Loha</i> mix with <i>Ghrita</i> and <i>Madhu</i> left for 1 yr in <i>Vijaysara</i> wood glass before use.
	12/275	Loha rasayana <i>Pind</i> of ingredients are put into the <i>Tamra patra</i> and put into <i>Dhanya</i> for 3 days.
	9/51-57	Kasisadya gritha All ingredients are mixed in <i>Ghrita</i> and put <i>Inti tamra patra</i> for 7 days in sunlight.
Bhaishajya Rathnavali	30/176	Chathusama mandura <i>Tamra kharal</i> is used for <i>Mardana</i> for 1 day.

DISCUSSION

Ayurveda uses a wide variety of medication preparation techniques. All these factors- *Prakriti*, *Desha*, *Kala Dosha*, and *Dushya*- are considered when a patient's treatment is planned. According to *Prakriti desha kala* different types of formulations are mentioned. *Swarasa*, *vati*, *Churnas*, *Aashava*, and *Arista* are formulations that are formed and created in accordance with the *Prakriti* of the individual. Ayurveda has also addressed mineral preparations because there are so many minerals needed for healthy living. Mineral preparations like *Bhasmas* have very potent pharmacological forms, the technique of *Bhasma* preparation is very complex process and *Bhasma* considered beneficial if it completed all the tests mentioned in classics otherwise it will show many dangerous side effects hence some herbomineral preparations are also mentioned for some essential minerals like iron, copper, silver, gold which are not toxic in certain extinct. These are not much potent as *Bhasmas* but can be used where a less quantity of minerals is required these preparations not only contains herbal medicines but also a small amount of a certain mineral. *Bhajana samskara* plays a most important role while preparation of these herbo mineral preparations. As mentioned earlier *Lepana* or resting technique where coating of *Kalaka* is applied over the specific metal, or leaving *Kwath* of the drug into the metal container, the choice of drug is also having its importance as those drugs which are reactive to specific metal is contra indicated but drugs which on exposure to that metal increases its potency are specially mentioned.

It has been observed that acidity of food is essential for making the most of iron leaching and enhancing its absorption as 76.5% of iron need has been met when 1 litre lemon water made in iron

utensil.^[14] For example during preparation of *Triphala Rasayana*, *Triphala kalaka* is applied over iron surface as *Triphala* contain *Amla* which is a good source of vitamin c, so the iron leaching from metal surface and absorption into the body both increases simultaneously hence it act as *Rasayana*.

Copper metal reduces pollutants, eliminates germs, moulds, algae, have antimicrobial, antibacterial activities hence act as a purifying agent. Because of this there is possibility of specifically using copper container while preparation of *Siddhama lepa* which is used in *Kustha chikitsa*, may be act as antimicrobial agent and hence increases the potency of drug.

Similarly, brass, silver, gold etc all these metals are used in accordance to increase the potency of drug and for adding some extinct of these metals. As these metals are precious and are not readily available hence these metals are replaced by plastic and steel. Due to this the potency of the formulations are compromised. But *Lepana* technique and leaving the metal into the specific container for certain period are the methods by which these metals can easily be incorporated into the formulations.

CONCLUSION

Every component used in the formulation of drugs, whether it be for preparation, formulation, or storage, has a specific function in Ayurvedic medicine that improves the formulation's quality. One distinctive idea that ought to be investigated is *Bhajana samakara*, where *Lepana* of metal is indicated. One of the largest issues the world is facing is malnutrition. As modern containers like stainless steel, plastic, etc. have replaced these metals, there is a deficiency of these minerals in today's generation, which leads to other systemic diseases and necessitates the use of multivitamins. Iron, copper, and

zinc are some minerals that are important or play important roles in the absorption of specific nutrients. Our *Acharyas* are well-versed in these topics, they know very well about reactivity of metals hence only those metals like iron, copper, brass, silver etc are explained which have some reactive component, precise metals like gold is not abundantly used as such like iron but Acharya Gangadhara in its commentary over *Triphala rasanya* has explained that iron can be a synonym for other metals also hence other metals like gold and silver should also be explored for these preparations. For example *Vacha* is indicated as *Rasayana* and its potency increases when used with gold and effective in speech disorders, it can be explored with *Lepana* technique. Again, rice patsama in silver utensil under *Sarada purnima* have its cultural importance as it is indicated in asthmatic disorders, also a matter of research. These ancient techniques of *Samskara* are falling behind due to time consumption and limitation of these metals but due to this the effectiveness of the formulation is also compromised, hence some contemporary techniques are needed to be developed in order to establish it into today's context.

REFERENCES

1. Yadavji Trikamji Acharya, (editor). Charaka Samhitha of Agnivesha. Revised by Charaka and Dhridabala. Vimanasthana, Chapter Reprint. New Delhi: Chaukhamba Publications, 2014; 235: 1-22.
2. Y.T Acharya (editor). Sushruta samhitha of Sushruta. Dalhana's Nibandha sangraha (sans), Reprint. Sutra sthana, Chapter Varanasi: Chaukhamba Krishnadas Academy, 2004; 160: 36-17.
3. Y.T Acharya (editor). Sushruta samhitha of Sushruta. Dalhana's Nibandha sangraha (sans), Reprint. Sutra sthana, Chapter Varanasi: Chaukhamba Krishnadas Academy, 2004; 197: 45-7.
4. Sharma. S. (editor). Ashtanga Sangraha of Vagbhata, Sutra sthana: Chapter Varanasi: Chaukhamba Krishnadas academy, 2006; 65: 6- 4.
5. Shastri. H. S, (editor). Ashtanga Hridayam of Vagbhata. Suta sthana: Chapter Reprint. Varanasi: Chaukhamba Sanskrit Sansthan, 2014; 5(4): 61-2.
6. Sharma. S. (editor). Ashtanga Sangraha of Vagbhata, Sutra sthana, Chapter Varanasi: Chaukhamba Krishnadas academy, 2006; 234: 32-11.
7. Yadavji Trikamji Acharya, (editor). Charaka Samhitha of Agnivesha. Revised by Charaka and Dhridabala. Chikitsa sthana, Chapter Reprint. New Delhi: Chaukhambha Publications, 2014; 589: 24-154.
8. Y.T Acharya (editor). Sushruta samhitha of Sushruta. Dalhana's Nibandha sangraha (sans), Reprint. Chikitsa sthana, Chapter Varanasi: Chaukhamba Krishnadas Academy, 2004; 555: 40-25.
9. Ambikadatta Shastri (editor). Bhaishajya Ratnavali of Govinda das. Varanasi: Chaukhambha Samskrith Bhavan, 2001; 268: 40-25.
10. Sharma. S. (editor). Ashtanga Sangraha of Vagbhata, Sutra sthana, Chapter Varanasi: Chaukhamba Krishnadas academy, 2006; 105: 10-28.
11. Y.T Acharya (editor). Sushruta samhitha of Sushruta. Dalhana's Nibandha sangraha (sans), Reprint. Sutra sthana, Chapter Varanasi: Chaukhamba Krishnadas Academy, 2004; 247: 46-450.
12. Y.T Acharya (editor). Sushruta samhitha of Sushruta. Dalhana's Nibandha sangraha (sans), Reprint. Sutra sthana, Chapter Varanasi: Chaukhamba Krishnadas Academy, 2004; 94: 20-4.
13. Ambikadatta Shastri (editor). Bhaishajya Ratnavali of Govinda das. Varanasi: Chaukhambha Samskrith Bhavan, 2001; 50: 14.
14. Alves C, Saleh A, Alaofe H. Iron containing cookware for the reduction of iron deficiency anaemia among children and females of reproductive age in low- and middle income countries: A systematic review. PLoS ONE. 2019; 14(9): e0221094. <https://doi.org/10.1371/journal.pone.0221094>.
15. Jain P. Effect of cooking utensil on iron content of food. Journal of Public Health Catalog, 2018; 1(4): 89-92.

Cite this article as:

Pooja Vashist, Mahesh Vyas. Bhajana Samskara: A Unique Method of Drug Fortification with Essential Metals. International Journal of Ayurveda and Pharma Research. 2023;11(5):51-55.

<https://doi.org/10.47070/ijapr.v11i5.2793>

Source of support: Nil, Conflict of interest: None Declared

*Address for correspondence

Dr. Pooja Vashist

PG Scholar,

Dept. of Samhita and Siddhant,

All India Institute of Ayurveda,
Delhi.

Email:

pooja.vashist7592@gmail.com

Ph: 9205537267

Disclaimer: IJAPR is solely owned by Mahadev Publications - dedicated to publish quality research, while every effort has been taken to verify the accuracy of the content published in our Journal. IJAPR cannot accept any responsibility or liability for the articles content which are published. The views expressed in articles by our contributing authors are not necessarily those of IJAPR editor or editorial board members.