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Importance of Rasaushadhies in Ayurveda

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Abstract: The word Rasa-aushadhies is basically used for "Preparations of Mercury". But, Rasa-aushadhies refer all herbo-mineral or metal formulations used for preventive as well as therapeutic purpose. Methods of manufacturing and preventive & therapeutic use of Rasa-aushadhies are studied in Rasa Shastra. Rasa Shastra is one of the Pharmaceutical & Clinical Sciences of Ayurveda developed in medieval India. Treatment with Rasa-aushadhies is known as Rasa Chikitsa and Physicians using 'Rasa-aushadhies' in the management of disease are called 'Rasa Vaidya'. Due to use of Rasa-aushadhies, Rasa Vaidyas are supposed to be superior to their professional counterpart using surgical procedures and plant drugs for treating disease. Now-a-days, many Rasa-aushadhies are considered as Nano-Medicine due to its Nano size & specific properties proved by modern scientists. The prime objective of Rasaaushadhies to provide safe, effective and quality treatment. Rasaushadhies are herbo-minerals/metals Ayurvedic medicine in different doses form as Mercurial Rasaushadhies like Khalva Raskalp, Parpati Raskalp, Kupi Pakva Raskalp, Potali Raskalp and Non-mercurial Rasaushadhies like Dhatu Bhasmas, Satva, Pisti. The processes involved in manufacture of Rasaushadhies are Shodhan, Marana, Jarana, Amaritikarana, Lohitikarana, Bhasma Priksha, Bhavana etc. Rasa-aushadhies in Ayurveda keep very important place due to its quicker action, patability, easy to administration, bioassailable, gently absorbable, adaptable and digestible in body, enhancement of action of other ingredients of formulation, able to treatment of complex diseases, able to do symptomatic treatment, non-toxic, more shelf life, more effective and lesser therapeutic dose as compare to any other formulation of Ayurvedic aushadhi. Rasa-aushadhies being most efficacious drug in Ayurveda but due to lack of sufficient information in modern research scenarios are less acceptable on global platform. Therefore, more and more researches should be done to prove its actual importance regarding welfare of mankind.

Keywords: Ayurveda, Rasa Shastra, Rasa-aushadhi

1. Background

In Sanskrit the word Rasa is used to describe a number of different things, including juice, taste and essence; within context of Rasa Shastra it is used to describe the metal Mercury, also known as quicksilver. The word Shastra means knowledge or sacred scripture. The term Rasa Shastra, therefore, could be called as 'the science of mercury'. Thus, the word Rasa-aushadhies is basically used for "Preparations of Mercury". But, Rasa-aushadhies refer all herbo-mineral or metal formulations used for preventive as well as therapeutic purpose. Methods of manufacturing therefore, could be called as 'the science of mercury'. Thus, the word Rasa-aushadhies is basically used for "Preparations of Mercury". But, Rasa-aushadhies refer all herbo-mineral or metal formulations used for preventive as well as therapeutic purpose. Methods of manufacturing and preventive & therapeutic use of Rasa-aushadhies are studied in Rasa Shastra. Rasa Shastra is one of the Pharmaceutical & Clinical Sciences of Ayurveda developed in medieval India. Rasa Shastra developed a new approach to the healing arts by its introduction of herbo-metallic-mineral formulations. Not only were these remedies at the disposal of the sick and dying, but were also made available to the strong and healthy who wishes to extend their lives. Eventually, after experimentation and refinement, this system found itself altogether new territory, that of empowered elixirs. These new elixirs no longer sought to heal or regenerate, but to make the body impervious to the ravages of time – for all the time, thus setting the ancients upon a new quest, the search of immortality.

Rasa Shastra is *Vedic based Medical Alchemy*. Using a fusion of metals, minerals, gemstones, animal products and

herbal ingredients, highly medicinal compounds known as Rasa-aushadhies were formulated for rejuvenation, the cure of chronic disease and ultimately life-extension. On a more esoteric level some of this work also provided a practical guide to the art of gold-making. Though this science was established in antiquity, its practice very much continues to the present day. Ultimately it was the medicinal side this work that prospered, producing a vast array of highly potent formulas dedicated to relieve humanity from its pains and suffering.

Rasa Shastra could be said to follow two pathways, firstly *Lohasiddhi*, referring to the transmutation of lower metals into noble metals such as gold and silver. The second pathways, *Dehasiddhi*, referred to the act of physical transformation that is to make the human body imperishable (or immortal).

"न च रसशास्त्रं धातुवादार्थमेवेति मंतव्यं, देहवेधद्वारा मुक्तिरेव परमप्रयोजनत्वात् ∣" (सर्वदर्शनसंग्रह)

Treatment with Rasa-aushadhies is known as Rasa Chikitsa and Physicians using 'Rasa-aushadhies' in the management of disease are called 'Rasa Vaidya'. Due to use of Rasaaushadhies being the most efficacious drug in Ayurveda, Rasa Vaidyas are supposed to be superior to their professional counterpart using surgical procedures and plant drugs for treating disease.

> 'उत्तमो रसवैद्यस्तु मध्यमो मूलिकादिभिः∣ अधमः शस्त्रदाभयामित्थं वैद्यास्त्रिधा मताः'∥

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Use of Rasa-aushadhies is independent from dosh, dusya, desh, kaal or rogi priksha. This is why it can be used in the time of urgency and emergency management. These properties also show superiority of any other Ayurvedic formulations.

'न रोगानां(दोषानां) न दूष्यानां न च पुंसां परीक्षणम् | न देशस्य न कालस्य कार्यै रस चिकित्सते ' ||

After development of modern Nanomedicine science, it could be clearly accepted that many rasa-aushadhies come in the criteria of nanomedicine. The Nano size particles were totally different from original particles in chemical composition and structure [Fig. (1)]. It not only increases the surface area but the Nano size also helps the drug to reach the target site efficiently.

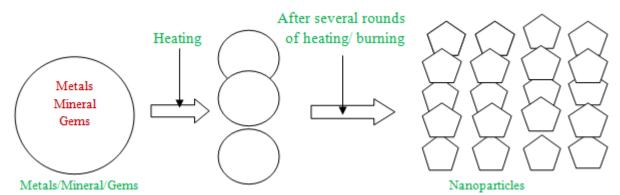


Figure 1: Schematic diagram of how toxic metal, minerals and gems turn into non-toxic Nanoparticles after several rounds of heating and burning

Aim

The principle objective of Rasa-aushadhies is to make healthy by maintenance and promotion of health, prevention and cure of sickness.

The prime objective of Rasa-aushadhies to provide safe, effective and quality treatment. According to need, the combinations of rasa-aushadhies can cure or prevent even from complex diseases. Rasa-aushadhies has ability to provide in endemic, epidemic and pandemic management.

2. Methods

Ayurvedic medicines, Rasaushadhies can be classified in distinct doses form classes as **Mercurial** and **Nonmercurial** Rasaushadhies. Based on the method of preparation, the mercury based Rasaushadhies are classified as Khalva Raskalp, Parpati Raskalp, Kupipakva Raskalp and Potali Raskalp. The non-mercurial Rasaushadhies preparation includes Dhatubhasmas, Satva and Pisti. Apart from these, there some other herbo-mineral Ayurvedic dose forms also where Rasdravyas are formulated along with herbal drugs.

Table 1:	Types	of Rasaudhadhi	& Examples.
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Type of Rasaushadhi	Examples	
Khalvi rasa	Kajjali, Tribhuvankirti rasa,	
Kilaivi lasa	Aarogyavardhini vati	
Parpati rasa	Rasa parpati, Panchamritaparpati,	
r arpati rasa	Swarnaparpati	
Kupipakwa rasa	Makaradhwaja rasa, Rasa sindura,	
Кирграк wa таза	Sameerpannaga rasa	
Pottali rasa	Hemagarbhapottali, Rasagarbhapottali	
Bhasma & Pisti	Abhrakabhasma, Swarnabhasma,	
Dilasilia & PISU	Pravalapisti, Muktapisti	
Lauha & Mandura	Saptamrutalauha, Punarnavamandur	

The processes involved in manufacture of Rasaushadhies are Shodhan, Marana, Jarana, Amaritikarana, Lohitikarana,

Bhasma Priksha, Bhavana etc. The Process means 'Sanskar'. It is a process of incorporating desired properties and removal of unwanted or toxic part of a drug. The minerals as compared to animal and plant products were not compatible with human body constitution. They could not be consumed in their natural form. The belief that intensive and elaborate processing is required to make them fit for therapeutic utilization lead to the evolvement of sophisticated processing procedures. A distinct principle of producing a drug, compatible with human body, is observed in the processing of mineral substances. The mineral or metallic material is treated with plant or animal substances, compatible with the body. In certain cases substances noncompatible with the human body such as minerals like orpiment (Hartaal), Realgar (Manahshila) are also used in processing. However in such cases the ultimate object of the processing is to produce an assimilable product for the human body, without producing harm in therapeutically effective dose. Bhasma Priksha is Parameters for Testing of bhasma. Bhasmas are of three types: metal based, mineral based and herbal based. The processed or prepared bhasma samples must be tested on the basis of specified parameters given in classical texts as well as by the modern analytical techniques to ensure that their safety and efficacy.

Analysis using parameters described in Ayurveda texts:-

- 1) Physical parameters Varitar, Unnama, Rekhapoornatva, Shlakshnatvam and
- 2) Chemical parameters Varna, Gatarasatvam, Nishchandratva, Apoonarbhavatva.

Analysis using modern parameters:

The bhasma as well as the starting material must also be analysed using the following techniques:

- X-ray diffraction (XRD) qualitative.
- Scanning electron microscopy (qualitative.

• Analysis by advanced analytical techniques like particle size distribution (PSD) analysis, scanning electron

microscopy (SEM), and inductive coupled plasma spectrometry (ICP).

Table 2: List of some Poisonous substances of mineral origin under Schedule-E6 and some of their aushadhayog.

S.No	Name of Drug	Chemical Name	Aushadhayoga
1.	Gauripashana	Arsenic	Sameerpannag rasa, Mallasindura
2.	Hartala	Arsenosulphide	Kasturibhairava rasa, Taalkeshwara rasa
3.	Parada	Mercury	Rasa parpati, Rasa sindoora
4.	Raskarpura	Hydrargyrisubchloridum	Used as formulation itself.
5.	Tuttha	Copper sulphate	Mahamrityunjaya rasa, Jatyadighrita
6.	Hingula	Cinnabar	Hinguleshwara rasa, Anandbhairava rasa
7.	Sindura	Red oxide of lead	Sinduradilepa
8.	Girisindura	Red oxide of mercury	Paadadarimalhara

Important factors related to Rasaushadhies administration:

- 1) Dose (Proper/Lesser/Overdose or excessive dose)
- 2) Time (Appropriate/Inappropriate)
- 3) Mode/Vehicle (Anupana) for drug administration (Appropriate/Inappropriate)
- 4) Diet and Routine management (Pathya/Apathya) Each time a patient.
- Recommended precautions: Ayurveda emphasizes on 5) safe treatment hence, to prevent the drug-induced illness many restrictions have been suggested which include, GCP (Good Clinical Practices) concern on administration, prescription of expired medicines, knowledge of inappropriate drug, examination of patient and disease before prescription. The quality concerns are controlled by formulary guidelines called AFI (Ayurvedic formulary of India) developed by dept of AYUSH (Ayurveda, Unani, Siddha) and CCRAS (Central council for Research in Ayurveda and Siddha).

The risk related to toxic effects of Rasaushadhies can be considerably reduced by use by following Good Collection Process (GCP), Good Manufacturing Process (GMP) and Good Laboratory Practice (GLP) for quality control and quality assurance for good quality processed medications and following various guidelines mentioned in Ayurveda classics related to administration of drug

3. Result

Rasa-aushadhies is unique in all aspects due to its quicker action, patability, easy to administration, bioassailable, gently absorbable, adaptable and digestible in body, enhancement of action of other ingredients of formulation, able to treatment of complex diseases, able to do symptomatic treatment, non-toxic, more shelf life, more effective and lesser therapeutic dose as compare to any other formulation of Ayurvedic aushadhi. All the above desirable characters are generated after Sanskars over its Crude materials. Sanskars remove unwanted or toxic part of initial material and make acceptable for medicinal use.

"अल्पमात्रोपयोगित्वात् अरुचेरप्रसंगतः∣ क्षिप्रमारोग्यदायित्वात् औषधेभ्योऽधिको रसः" ∥ (रस. सा. सं.)

It is fact that Rasashastra appeared as a big boon for humanity and a medicaments showed quick effectiveness even in very small doses. But now a day there is big issue about the use of Rasaushadhies (Herbomineral medicine) regarding their safety and impurity.

4. Discussion & Conclusion

Use of metals and minerals in Ayurvedic drugs remains a most controversial issue for the followers of western medicine. These concerns not always true; mere presence of metal in a formulation will not develop adverse effects. Judicious administration considering all variants as explained in Ayurveda determines the benefit or otherwise. Pioneers of Ayurveda have considered in detail about the possible ways by which untoward effects can be occurred and provided all guidelines to avoid such occurrence. Use of various Herbo -metal-mineral medicines containing metals and minerals in therapeutics is an essential part of Ayurveda but safety and toxicity concern in the two decades creates debates in conventional community which attempted to damage the glory of Ayurveda. Purpose of this study was to see the incidence of kidney injury due to Ayurvedic drug consumption. As Rasaushadhies (Herbomineral medicines) are used by many of Ayurvedic practitioners; and patient got relief from their illness as we expected. In spite of this adverse effect of Rasaushadhies (Herbomineral medicines) remains questionable. To answer such questions study was conducted. This study creates confidence to Ayurvedic practitioners to use herbomineral drugs in patients.

Rasa-aushadhies being most efficacious and effective drugs in Ayurveda but due to lack of sufficient information in modern research scenarios are less acceptable on global platform. With standard International guidelines and vigorous directional researches, rasa aushadhies can move towards its ideal glory in International Scientific community as well as general global community. Therefore, more and more researches should be done to prove its actual importance regarding welfare of mankind.

Now it is time, *the Centre of Rasa-shatra Nalanda* need to be revive once with world class Rasa-aushadhies Research Wing to return the glorious history of Rasashastra & Rasaushadhies of India. It will be great gratitude to all rasashastries (iatrochemists) specially "*Father of Rasa Shastra, Nagarjuna*", former vice-chancellor of old Nalanda University (the second oldest university of world) for his incredible work.

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