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## Review Article

### KHARALIYA RASAYANA USED IN CLINICAL AYURVEDA PRACTICE- A CONCEPTUAL REVIEW

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#### ABSTRACT

In *Ayurveda* different herbs, metals and minerals are used in day to day clinical practice. *Parad* (Mercury) is commonly used ingredient of number of *Rasa Aushadhi*. The certain procedures are to be followed to make the Mercury fit for administering it into the body, by which all the physical and chemical impurities of Mercury are mitigated. The numbers of these procedures to purify Mercury are eighteen which is known as *Parad Ashtadash Samskar*. *Kharaliya Rasayana* is one of most frequently used *Parad Murchhita Aushadha Vargikarana* in *Ayurveda*. References regarding *Kharaliya Rasayana* were collected and studied in detail and conclusion was drawn. The *Kharaliya Rasayana* stands foremost in comparison with *Parpati*, *Pottali* & *Kupipakwa Rasayana* in terms of its popularity, wide range of therapeutic utility & ease of preparation. *Kharaliya Rasayana* are innumerable and most indicated in majority of disease condition. *Bhavana & Mardana Samskara* are the main principle behind the preparation of *Kharaliya Rasayana* by which its therapeutic safety and efficacy is determined.

#### INTRODUCTION

In *Ayurveda* different herbs, metals and minerals are used in day to day clinical practice. Pharmaceuticals is a science which design different dosage form. *Parad* (Mercury) is commonly used ingredient of number of *Rasa Aushadhi*. In *Ayurveda*, *Rasa Shastra* is a science of dealing with Mercury where Mercury is when

subjected to *Murchchahna*, that alleviates the diseases. When Mercury bound into a solid form, it bestows emancipation and when *Marana* of Mercury is done (when brought into the form of *Bhasma* through incineration process) makes the body immortal. These are the unique qualities of Mercury<sup>1</sup> as described in the classical texts of *Ayurveda*. The one who endeavours to bind Mercury is a blessed one because at that moment itself, he determines to make this world devoid of disease and death<sup>2</sup>. *Acharya Vagbhata* has mentioned that the disease can be treated quickly by *Ayurveda*. It is to a certain extent because of *Rasa Chikitsa* i.e. treating ailments with

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metallic or herbo mineral preparations. *Rasa* term is attributed principally to Mercury in *Ayurveda*. The Mercury is not administered in its original state. The certain procedures are to be followed to make the Mercury fit for administering it into the body, by which all the physical and chemical impurities of Mercury are mitigated. The numbers of these procedures to purify Mercury are eighteen which is known as *Parad Ashtadash Samskar*<sup>3</sup>. Such processed Mercury is capable to transmuting the mortal cells of the body into immortals ones, and the Mercury is further administered on the body for attainment of lively liberation. Qualities of *Rasa Aushadh* is like quick action in lower dose without feeling any untoward taste and increased shelf life of herbal constituents is the beauty of using *Rasa Aushadhies*<sup>4</sup>. Mercury is never used individually for internal administration. To bring about the therapeutic qualities, it is used after processing along with other drugs. This review is done with the objectives to study the *Kharaliya Rasayana* used in clinical *Ayurveda* Practice.

## MATERIAL AND METHOD

References regarding *Kharaliya Rasayana* were collected from various classical and *Ayurveda* published works, published research papers from Pub Med, Google Scholar and compilation was done. Concept of *Kharaliya Rasayana* was studied in detail and conclusion was drawn.

### Review of Literature

In *Rasa Shatra*, on the basis of the process adopted in the preparation and sometimes shape or form of the end product, the nomenclature is fixed to the Mercurial medicines<sup>5</sup>. The following are few Mercurial preparations.

1. ***Kharaliya Rasayana*** – Mercury ground along with other drugs in a *Kharal* or *Khalva* (mortar). Hence the name *Kharaliya / Khalviya Rasayana*.
2. ***Parpati Rasayana*** – Mercury, after grinding with sulphur etc. is liquefied and poured on *Kadali* leaves and pressed to make into flakes called *Parpati Rasayana*.
3. ***Kupi Pakva Rasayana*** – It is the main technique of preparation of this type of medicine and is subjected to the mercurial compound to heat in a glass bottle, this preparation is thus called *Kupi Pakva Rasayana*. Many *Sindoora* preparations are

processed in this method. Since the final product is in the colour of brick-red, this is called *Sindoora*.

4. ***Pottali Rasayana*** – Mercury, after initial grinding with drugs is made into a bolus / ball of certain shape like *Shivalinga* etc., and again boiled is called *Pottali*.
5. ***Bhasma*** – Incineration of Mercury along with certain other drugs yields *Bhasma* of Mercury or *Rasa Bhasma*.

The *Kharaliya Rasayana* stands foremost in comparison with *Parpati*, *Pottali* & *Kupipakwa Rasayana* in terms of its popularity, wide range of therapeutic utility & ease of preparation. *Parpati*, *Kupipakwa* & *Pottali Rasayana* are limited in numbers but the *Kharaliya Rasayana* are innumerable and most suitably indicated in vast majority of disease condition. Since these formulations are completely prepared and obtained as end products in *Khalvayantra* by the act of trituration, they are called as *Kharaliya* or *Khalviya Rasayana*. Trituration is originated from the root latin word “trituration” which means to rub. The act of triturating a drug with any liquid not only reduces the drug particles to a finer state of subdivision but also facilitates the breakage and reunion of bonds in material triturated. As a result of which we find an entirely different compound formation by the end of total trituration. Some of the key factors which directly influence the formation of new compound in case of *Khalviya Rasayana* are nature of drug material, mass & size of drug particles, amount of liquid added, pressure applied during trituration, rhythm maintained for the trituration, time duration & surface area of trituration, humidity & room temperature etc<sup>6</sup>. The principle used in preparation of *Kharaliya Rasayana* is based on the principle of *Mardana* and *Bhavana* (Trituration). *Mardana* is the process of trituration of drugs to a fine state of division with or without prescribed liquid. *Bhavana* is the process by which powders of drugs are ground to a soft mass with liquid substances and allowed to dry.

**Rationality behind selection of liquids for *Bhavana*:** Any *Kharaliya Rasayana Kalpa* usually comes with one or more *Bhavana Dravyas*. The criteria behind selection of specific *Bhavana Dravyas* for a particular formulation depends upon their ingredients and desired therapeutic utility. The

properties of each each drugs & the disease condition in which it has to be administered & later came up with a specific *Bhavana Dravyas* or a set of *Bhavana Dravya* for a particular preparation. On the same ground in *Ayurveda* compound formulation are prepared and after so many trial & error combination methods they are established in clinical application. Some of the hypothetical points to justify the above said theory are as below<sup>7</sup> –

**1. Synergism-** When two or more drugs of similar properties are combined together & processed, they augment the activity of one another to produce an effect which would not have been possible for any of the involved drugs individually. e.g. In case of *Gandhaka Rasayana* preparation, the 11 *Bhavana Dravya* augment the only ingredient that is *Suddha Gandhaka* to make it effective in wide range of disease conditions. Similarly in *Agni Kumar Rasa* preparation, to the set of 7 herbo-mineral drugs, the *Bhavana Dravyas* used in *Jambir Nimbu Swarasa*, which itself is an excellent appetizer by virtue of *Tikshna Guna, Amla Rasa & Amla Vipaka*.

**2. Antagonism-** When two or more drugs of opposite properties are combined together & processed, they bring down the ill effects of one another, in other words they help to harmonizing the *Gurvadi Guna* of one another. At many instances, the *Tikshanta* of the drugs will be greatly reduced. e.g. In case of *Maricha Shodhana*, the *Bhavana Dravya* used is *Amlatakra*; here the *Laghu-Tikshna Guna, Katu Rasa, Katu Vipaka & Ushnavirya* of *Maricha* is counter-acted by the exactly opposite properties of *Amlatakra* which possess *Amla-Madhura Rasa & Sheeta Virya*.

3. *Bhavana Dravyas* contributes in getting rid of the any disagreeable taste & unpleasant odour of the end product e.g In case of *Vasanta Malati Rasa*, to the set of five herbo-mineral drugs the *Bhavana Dravya* used are *Draksha Kwatha* which helps to bring in palatability & *Nimbu Swarasa* which adds pleasant flavour to the end product. Similarly in *Rambana Rasa* the *Bhavana Dravya* is *Chinchaphala Rasa*, which removes the un-palatability by making palatable. In *Kaphaketu Rasa- Bhavana Dravya Ardarkaswarasa*, which adds good palatability & odour.

4. The *Bhavana Dravya* alleviates the toxic properties in a *Visha Dravyas*. e.g. The poisonous drug *Ahiphena (Papaversomniferum)* is purified by 21 times *Bhavana*

of *Sunthi Swarasa*. *Manahshila* is purified by *Nimbu Swarasa Bhavana*.

**General Preparation Method of Kharaliya Rasayana<sup>8</sup>:** The *Kajjali* or other fine powders of other purified *rasa Dravyas* are taken into a *Khalwayantra*. Mixed properly to obtain a homogenous mixture. This mixture is subjected for trituration with any of liquids mentioned in particular formulation in *Khalwayantra*. Raw materials used are *Rasaadidravaya, Vanoushadhi* and *Bhavana dravya*. Processing is done in sequence of *Kajjalinirmana-* mixing of all other ingredients- *Bhavana- Niragni Samskara*. After specific *Bhavana/ Mardana* in *Khalwayantra*, the end product is obtained which needs to be collected, dried & stored in air tight container for further therapeutic use. Final product that is ready to be used form is *Vati, Gutti* etc. If the stored end product is marketed, it has to be neatly labeled with all the details about the preparation as regulated by GMP, which should contains - Name of the formulation in big letters, reference, indication, contents, dose, adjuvant, batch number, reg. no., date of manufacturer, date of expiry etc.

When prepared in large scale factors should be taken care of are fine particles, proper mixing, uniform weight tablets and free from moisture. As bioavailability is direct depends upon the particle size of a drug, different *Samskara* play important role. Some the equipments and instruments help to reduce particle size. Disintegrator is used for reduction of particle size of raw materials. It is capable of grinding hardest of drugs like *Nux-vomica* seeds, ginger etc. Pulverizer is specially designed for medium fine and fine size reduction with heavy and rugged construction. It can be used for minerals. Proper mixing - mixer is the equipment used to mix two or more than two components. It ensures uniformity in composition. Grinders are used when particle size reduction and proper mixing both to be achieved. Breaking of particle done by continuous pressure. Size reduction is done by by impact or blow. Grinding is done by by shear or abrasion. Uniform weight can be obtained by using Pill Making Machine. Moisture can be prevented by vacuum drier, silica gel packs, air tight containers.

**Significance of Kharaliya Rasayana<sup>9</sup>**

- Prolong shelf life of herbal formulations

- Enhance the therapeutic efficacy
- Decrease the dosage
- Decrease the duration of treatment
- Provide bilateral safety and efficacy to both mercury and
- Herbs

Some common *Kharaliya Rasayana* used in clinical practice are *Kajjali*, *Vasanta Kusumakar Rasa*, *Vasanta Malti Rasa*, *Rasa Raj Rasa*, *Yogendra Rasa*, *Mrityunjya Rasa*, *Ratnagiri Rasa*, *Aarogyavardhini Rasa*.

## DISCUSSION

*Kharaliya Rasayana* is one of the most common dosage form of medicines having the metals and minerals as ingredients. *Kharaliya Rasayana* is most commonly used in day to day clinical practice. *Bhavana* is a *Samskara* which alters the original properties of raw drugs & induces the new properties into the main drugs<sup>10</sup>. *Mardana* and *Bhavana Samskara* play important role to bring minute particles of the material in contact with the liquid media, impregnation of properties of the media to the material, transformation of the coarse powder to finer state, to facilitate the material for further processing. It leads to unique and suitable physico-chemical changes to potentiate the efficacy of the material<sup>11</sup>. The process of *Mardana* and *Bhavana* thus helps in the process of production of quality medicines specially *Kharaliya Rasayana*. The *Kharaliya Rasayana* prepared in classical ways is safe and effective for clinical practice in therapeutic dose.

## CONCLUSION

*Kharaliya Rasayana* is one of most frequently used *Parad Murchhita Aushadha Vargikarana* in *Ayurveda*. *Kharaliya Rasayana* are innumerable and most indicated in majority of disease condition. *Bhavana* &

*Mardana Samskara* are the main principle behind the preparation of *Kharaliya Rasayana* by which its therapeutic safety and efficacy is determined.

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