IMPORTANCE IN FORMULATION OF 'SHODHANA'

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ABSTRACT
Sodhana (Purification) is an important and principal pharmaceutical procedure for removing the impurities before the conversion of metals and minerals into Bhasma. In Ayurveda, pharmaceutical procedures which converts a poisonous drug into a therapeutically very effective medicine for various ailments is termed as Shodhana. Various medias are being used for processing the herbal poisonous drugs, are quite interesting to understand with modern scientific technology.

Importance of Media in Shodhana (Purification/Processing).

DEFINITION
Shodhana is a process of separation by which physical and chemical impurities get separated from the substances by treatment with various drugs. It is a process by which blemishes are separated from the substance by various processing like grinding, etc. with specific drugs.

Shodhana is a process of removal of impurities from substances by means of pharmaceutical processing of Swedana, Mardana etc. with particular drugs.

Objectives
1. Elimination of physical and chemical impurities, which are not desired.
2. Eradication or minimization of toxicity of the material.
3. Transformation of the hard and non-homogeneous material to soft, brittle, ductile and homogeneous material.
5. Potentiation of therapeutic efficacy of the drug material.
6. Conversion of the material in suitable form for further processing.
7. Leads to unique and suitable physico-chemical changes.
8. For direct therapeutic uses in some cases.

Procedures
1. Abhisheka (sprinkling): The material is heated strongly and the liquid media is sprinkled on it. e.g. Mandura Shodhana
2. Achushana (absorption): Oily content of certain toxic materials is minimized through different absorption means, e.g. Bhallataka Shodhana.
3. Atapa / Agni Shoshana (drying): The material is kept on fire or exposed to sun rays till its dryness e.g. Shilajatu Shodhana.
4. Bharjana (frying or roasting): The material is fried with specific liquid media on Mandagni (mild heat), e.g. Gairika Shodhana.
5. Bhavana (levigation): The material is triturated with prescribed liquid media for specific time period. e.g. Hingula Shodhana.
6. Dhalana (melting and quenching): At first the material is melted by intense heat and then poured into a liquid media. e.g. Naga Shodhana.
7. Galana (melting and straining): The solid material is melted first by heating and then filtered through a cloth e.g. Gandhaka Shodhana.
8. Mardana (trituration): The material is ground properly with prescribed drug for specific period. e.g. Parada Shodhana.
9. Nimajjana (dipping): The material is kept immersed in the prescribed liquid for specific period. e.g. Vatsanabha Shodhana.
10. Nirjali Karana (evaporation of water): Whole water content of the material is evaporated by heating. e.g. Sphatika Shodhana.
11. Nirvapa (heating and quenching): The red hot material is dipped into the prescribed liquid. e.g. Lauha Shodhana.
12. Parishravana (straining): The solid material is dissolved in suitable liquid media and separated from insoluble impurities through straining. e.g. Navasadara Shodhana.
13. Patana (sublimation): Through Patana Yantra the material is heated to convert into vapour, from
which the material is regained again by condensing. e.g. Parada Shodhana.

14. **Prakshalana (washing):** The material is washed with prescribed liquid to remove its physical impurities. e.g. Godanti Shodhana.

15. **Prithakikarana (separation):** Physical impurities are removed. e.g. Guggula Shodhana.

16. **Swedana (boiling under liquid bath):** The material is boiled in prescribed liquid media through Dola Yantra method. e.g. Sankha Shodhana.

17. **Vilayana (elutriation):** The material is firstly dissolved in prescribed liquid media and left as such for some time. Then the upper part of the liquid containing the soluble drug material is decanted into another pot leaving behind the impurities in the bottom of the first pot. e.g. Shilajatu Shodhana.

**Types**

*Shodhana* process is grossly subdivided into two major categories as follows:

1. **(1) Samanya Shodhana**
   It is used as general procedure for *Shodhana* of all drugs of a particular group, in other words these drugs should be purified individually through the same *Shodhana* procedure. e.g. Samanya Shodhana of Dhatu.

2. **(2) Vishesha Shodhana**
   It is used as specific procedure for particular drug material individually not for a group. It should be applied after Samanya Shodhana. e.g. Vishesha Shodhana of Loha in Triphala Kwatha.

**Changes during Shodhana process**

1. **(1) Physical changes**
   (a) **Elimination of physical impurities:** Kampillaka is separated from brick powder. Guggulu is separated from physical mixture. Shilajatu is separated from insoluble physical impurities.
   (b) **Reduction in hardness:** By repeated heating and quenching, hardness of the metals and minerals become less.
   (c) **Increase brittleness:** By repeated heating and quenching in liquid media. Creacks are seen on the surface of metals and minerals and these become brittle.
   (d) **Reduction in particle size:** During Nirvapa process cracks are seen on the surface of metals and minerals, and these are broken into coarse powder. In Bhavana process mass of the substance become powder form.

2. **(2) Chemical changes**
   (a) **Elimination of chemical impurities:** During *Shodhana* of native Makshika (CuFeS2) impurities like arsenic get eliminated by heating.
   (b) **Formation of chemical compounds:** Lauha when heated upto redhot, reacts with atmospheric oxygen to form ferroso-ferric oxide, which is favourable to the body. Makshika when fried, sulphur (S) is eliminated and iron and copper part convert into oxide form.
   (c) **Change into desired compound:** During *Shodhana* of Tankana and Kankshi water portion is evaporated and desired chemical compound is formed.

3. **(3) Biological changes**
   The ultimate objective of these physico-chemical changes of the material is to increase its biological availability means to potentiate its biological efficacy. Reduction in particle size helps in absorption, smoothness leads to non-irritability, and all chemical changes make the material body friendly like *Shodhita Vatsanabha* purified in cow s urine is converted into cardiac stimulant, where as crude *Vatsanabha* is claimed to be cardiac depressant, seeds of *Kuchala* purified in cow s milk show CNS depressant activity.

**CONCLUSION**

Without Shodhan we cannot use any drug in Ayurvedic formulations. That’s why Shodhana is very essential in Ayurvedic Herbo-mineral preparation. For efficacy & safety of drug proper Shodhana is very important.

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