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Review Article

CLASSICAL AND MODERN REVIEW ON *SNEHA KALPANA* W.S.R TO *GHRITA KALPANA*

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ABSTRACT

Ayurvedic dosage forms hold a unique place in pharmaceutics and therapeutics. *Sneha Kalpana* is a group of products of medicated *Taila* and ghee. It is an Ayurvedic preparation of oleaginous medicine that is prepared with the use of *Kalka* (herbal paste of different parts of plants), *Kwatha* (specifically prepared decoction in accordance with Ayurvedic principles) or *Drava Dravya* (any other liquid such as milk, juices etc.) With suitable *Sneha* as base taken in specific proportion, both the ingredients are mixed and heated under a specific temperature to meet the desired therapeutic requirement. In the modern terminology, *Sneha* can be correlated with Lipids. **Materials and Methods:** Literature related to *Sneha Kalpana* and Lipids have been referred from various Ayurvedic texts, modern medical books, research papers and journals. Properties of *Sneha Dravya*, *Sneha* sources, phases of *Sneha Kalpana*, effect of *Sneha Paka* on therapeutics, *Sneha* dose, *Anupana*, shelf-life, lipids and their types have been explained and compiled from different sources. **Conclusion:** *Sneha Kalpana* is used to extract fat soluble active principles from drugs and also to increase permeability of drugs so that they can be absorbed easily through the cell membrane. It is the only dosage form that can be administered through all routes of body, viz., *Nasya* (nasal route), *Tarpan* (ocular route), *Karnapooran* (auditory route), *Snehapan* (oral route), *Abhyanga* (topical route), *Basti* (vaginal, urethral, anal route). In the Modern era, various dosage forms can be developed as novel drug delivery system (NDDS) utilizing the concept of *Sneha Kalpana* (Lipids) to increase the bio availability of drugs to show maximum therapeutic effect.

INTRODUCTION

Sneha: According to *Shabdakalpadruma*, *Sneha* is called whenever *Dravtava* is realized by seeing, touching, hearing and by talking.

Kalpana

- According to *Shabdakalpadruma "Kalpana"* is the process or the method employed for the preparation of pharmaceutical products. The processes like grinding, heating, boiling, etc are included in the list and form the integral part of Ayurvedic pharmaceutical preparation.
- According to Chakrapani *"Kalpana"* or *"Prakalpana"* is *Samskarana* like *Agnisamskaran*, *Agnijala samskaran*.
- According to Arundutta *"Kalpana"* is the *Yojana* or the plan laid out for the preparation of medicines.

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Sneha Kalpana

Sneha Kalpana is an Ayurvedic preparation of oleaginous medicine that is prepared with the use of *Kalka* (herbal paste of different parts of plants), *Kwatha* (specifically prepared decoction in accordance with Ayurvedic principles) or *Drava Dravya* (any other liquid such as milk, juices etc.) With suitable *Sneha* as base taken in specific proportion, both the ingredients are mixed and heated under a specific temperature to meet the desired therapeutic requirement.

Sneha Kalpana is used to extract fat soluble active principles from drugs and also to increase permeability of drugs so that they can be absorbed easily through the cell membrane.

Properties of *Sneha Dravya*

According to *Ashtang sangraha, Sutrasthan,* 25/8, the substances which possess the properties such as *Drava* (liquidity), *Sukshma* (minute and capable of penetrating deep), *Sara* (flow), *Snigdha*

(unctuous), *Pichchila* (sticky), *Guru* (heavy), *Sheetala* (cold), *Manda* (slow), and *Mridu* (smooth) are called *Sneha Dravyas.*[1]

Properties of *Ghrita*

Ghrita alleviates *Pitta* and *Vatta* disorders, beneficial for *Rasa, Shukra, Ojas*, has cooling, softening effect, improves voice and complexion. It promotes memory, intellect, digestive power, *Kapha* and *Medas*. It helps in treating poison conditions, phthisis, insanity, fever etc. It has cold potency, *Madhura Rasa* and *Madhura Vipaka*. Out of all the *Ghritas, Go ghrita* is the best and its properties have been described earlier.[2]

***Sneha Yoni* (Sources)**

As per *Charaka Acharya Sneha* has two *Yonies* (sources) 1. *Sthavara* and 2. *Jangam* [3]

1. ***Sthavara Sneha*:** Plant origin *Sneha.* Eg: *Taila*
2. ***Jangam Sneha*:** Animal origin *Sneha.* Eg: *Ghrita, Vasa, Majja.*

According to *Sushruta Acharya, Jangam Yoni-Go ghrita* and *Sthavara Yoni - Tila Taila* are the best. [4]

Classification of *Sneha*

1. **According to *Sneha dravya* used** [5]
   - *Sneha* are of 4 types: *Ghrita*, (ghee), *Taila* (oil), *Vasa* (fat), *Majja* (bone marrow).
   - Out of these *Ghrita* is the best because of its *Yogavahi* property, *Ghrita* attains the properties of the ingredients with which it's processed without losing its own properties.
2. **According to *Paka*** [6]
   - *Sneha* has different types according to *Paka*: 1. *Mridu,* 2. *Madhyam,* 3. *Khara*.
   - Another two types also mentioned by *Sharangdhara*: 1. *Ama* and 2. *Dagdha paka.*
3. **According to Combination** [7]
   1. ***Yamaka Sneha*:** The combination of any two *Sneha* is known as *Yamaka Sneha,* for example *Ghrita* + *Taila* and so on.
   2. ***Trivrit Sneha:*** The combination of any three *Sneha* is known as *Trivrit Sneha*, for example *Ghrita* + *Vasa* + *Taila* and so on.
   3. ***Maha Sneha*:** The combination of all the 4 *Sneha* is termed as *Maha Sneha.*
4. **According to Action** [7]
   1. *Shaman Snehana*
   2. *Brimhan Snehana*
   3. *Shodhan Snehana*
5. **According to Uses** [4]
   1. *Pana*
   2. *Anuvasana*
   3. *Abhyanga*
   4. *Shirobasti*
   5. *Uttar-basti*
   6. *Nasya*
   7. *Karnapurana*

Phases of *Sneha Kalpana*

Sneha Kalpana is done in 3 phases

1. **First Phase:** *Sneha Murchana*
2. **Second Phase:** *Sneha Paka*
3. **Third Phase:** *Paka Sidhi*

1. First Phase: *Sneha Murchana* [8]

Murchana is the first step towards any *Sneha Paka* process. This term was first mentioned by Nishchalker in his commentary Ratanaprabha on Chakradutta. But the term was explained later in detail in Bhaishajya Ratnavali by Govind Das Sen. It is applicable to both Ghee and Oil. *Murchana* process for both *Ghrita* and *Taila* is same but the ingredients for both are different. Here only *Ghrita Murchana* ingredients and process has been described.

Table 1: Ingredients used for *Ghrita Murchana* and their Ratio [8]

S.no	Ingredients	Latin Name	Family	Part Used	Quantity
1.	*Haritaki*	*Terminalia chebula* Linn.	Combretaceae	Pericarp	1 *Pala* (48gms)
2.	*Vibhitaki*	*Terminalia bellerica* Linn.	Combretaceae	Pericarp	1 *Pala*
3.	*Amalaki*	*Emblica officinalis* Gaertn.	Euphorbiaceae	Pericarp	1 *Pala*
4.	*Haridra*	*Curcuma longa* Linn.	Zingiberaceae	Rhizome	1 *Pala*
5.	*Musta*	*Cyperus rotundus* Linn.	Cypraceae	Rhizome	1 *Pala*
6.	*Matulung*	*Citrus medica* Linn.	Rutaceae	Fruit Juice	1 *Pala*
7.	*Go ghrita*	-	-		1 *Prastha* (768 gms)
8.	*Jala*	-	-		1 *Prastha*

Main aim of *Sneha Murchana* is to remove

1. *Durgandha* (Bad odor)
2. *Amadhosha* (unrefined)
3. *Ugrata* (Sharpness)

Sneha Murchana* Process for *Ghrita [8]

Murchana is the first step towards any *Sneha paka* process. It is a special pharmaceutical procedure before subjecting the drugs to *Sneha paka*. For the Preliminary treatment of *Ghrita* (refining of *Ghrita*) six

herbal drugs are added to it. These herbal drugs are: *Haritki* (*Terminalia chebula*), *Amalaki* (*Emblica officinalis*), *Vibhitaki* (*Terminalia bellirica*), *Mustaka* (*Cyperus rotundus*), *Haridra* (*Curcuma longa*), *Matulunga* (*Citrus medica*). This preliminary treatment of *ghrita* is called as '*Sneha Murchana*'.

After *Sneha Murchana*, *Sneha* will acquire the following qualities

1. Good smell and color.
2. Potency of *Sneha* is enhanced so that it can imbibe more active principles from the drug with which it is processed.
3. *Sneha* will take up the active principles present in the *Murchana dravyas* also.
4. It may alter the solubility and absorbability of the finished product.

2.Second phase: *Sneha paka* [10]

Materials required for *Sneha Paka*

Sneha Kalpana needs the following materials

1. ***Kalka dravya*:** Paste of various parts of medicinal plants may be used.
2. ***Drava dravya*:** Water, fresh juice, decoction, milk, *Kanji*, Butter milk etc.
3. ***Sneha dravya*:** *Sneha Kalpana* is of two types like *Taila Kalpana* and *Ghrita Kalpana*. Accordingly oil or ghee is used as base. Among oils, *Tila taila* is commonly used and among ghee, *Go ghrita* is used.
4. ***Gandha dravya*:** To give good odor, perfuming substances like *Ela, Twak Patra, Kakkola*, *Karpoora, Lavanga* etc. may be used wherever necessary.

General ratio for *Sneha Paka* of *dravyas* [9]

If the quantity of the ingredients is not mentioned, then *Kalka*, *Sneha*, and *Drava dravya* should be added in the proportion of 1:4:16 respectively.

Preparation of *Kwatha* for *Sneha Paka* [9]

For the preparation of *Kwatha* according to hardness of *Kwathya dravya* (chopped herbs), water should be added for *Mridu dravya* (herbs of soft texture) four times, *Madhyama dravya* and *Kathina dravya* (herbs of harder texture) eight times, and for *Atyanta kathina dravya* (most hard herbs) sixteen times.

General Process of *Sneha Paka* [9]

Preparation of medicated oils/ghee is done using following steps

1. First the oil/ghee has to be subjected to *Murchana*.
2. In the second phase, specified amount of *Kwatha* or other liquids are added to *Murchita Ghrita.*
3. In the third phase, the *Kalka* is added and subjected to mild heat till the liquid portion evaporates.
4. Stirring is done continuously esp. in the last stage so that *Kalka* does not adhere to the walls of the vessel which leads to carbonization of contents.
5. After the three phases, when excess of foam appears in the oil and foam disappears in ghee, along with the emergence of color, odor of medicaments, then it is considered that the preparation is complete. After this the contents are gently filtered through a clean cloth, delay will lead to loss of oil/ghee as the *Kalka* drugs absorb the oil/ghee contents.
6. After this, when the preparation is lukewarm, the fine powder of perfuming substances are added if prescribed.
7. This is a general process of *Sneha paka*. If there is special mention regarding the quantity of each *Dravya*, the preparation should be done accordingly.

Preservation

Sneha is preserved in glass, polyethylene or Aluminium containers.

Specific rules for *Sneha Paka*[9]

1. The quantity of *Kalka dravya* differs from general ratio depending on different *drava dravyas* used. In case of *Jala, Kwatha, Swaras*, the *Kalka* quantity will be 1/4th, 1/6th and 1/8th respectively.
2. In case of *Dugdha* (milk), *Dadhi* (curd), *Mamsarasa* (meat soup), *Takra* (butter milk) used as *Drava dravya* the quantity of *Kalka* should be 1/8th of *Sneha*. Water should also be added four times to that of *Sneha* for proper extraction of phyto-constituents.
3. If the numbers of *Drava dravya* are 5 or more than 5 in number then quantity of each should be equal to that of *Sneha*.
4. If they are less than 5 then the total quantity of all of them should be 4 times to that of *Sneha*.
5. If only *Kalka dravya* is mentioned then *Kwatha* of same drug prepared by adding four times water is used.
6. If only *Kwath dravya* is mentioned for *Sneha* preparation then *Kalka* of same drug should be added.
7. In case where *Kalka* is either not indicated or restricted in any *Sneha Kalpana*, there *Sneha* may be prepared without *Kalka* and *Drava dravya* should be used four times to that of *Sneha*.
8. In case of *Puspha Kalka*, it should be taken 1/8th to that of *Sneha* and four times water should be added for proper *Paka*.

Duration of *Paka* [9]

Sneha Paka should not be completed within a day. Longer the duration of preparation more the absorption of fat soluble active principles of the

ingredients. Duration of *Paka* depends upon the nature of the liquids added to the *Sneha*.

Table 2: Liquid media and Duration of *Sneha Paka*

S.No.	Liquid Media	Days
1.	*Mamsa Rasa, Vrihi dhanya*	1 day
2.	*Dugdha*	2 days
3.	*Swarasa*	3 days
4.	*Kwatha, Aranala, Takra*	5 days
5.	*Valli, Mula*	12 days

3. Third phase- *Paka Siddhi lakshana* [6]

Paka Siddhi lakshana

Paka Siddhi lakshana is the third phase where desired quality of *Ghrita* is observed. These *Lakshana* can be observed in all stages of *Sneha Paka*. *Sneha Paka* is mainly divided into 3 stages:

1. ***Mridu Paka (Manda Paka)***
2. ***Madhyama Paka (Cchikkana Paka)***
3. ***Khara Paka (Khara Cchikkana Paka)***

- Vagbhata has named *Mridu paka, Madhyam Paka* and *Khara Paka with Manda Paka, Cchikkana Paka* and *Khara Cchikkana Paka* respectively.
- Vagbhata *(A.H. Kal. 21)* and Sharangadhara *(Sa.Sa.M 9/14)* mentioned 2 more stages preceding and succeeding the above 3 stages respectively, i.e. *Ama* and *Dagdha Paka*. These are not suitable for therapeutic use.
- Harita adds one more stage of *Sneha Paka* which is *Vishesha Paka* and it comes after the stage of *Dagdha Paka* and has no therapeutic use. (H.S 4/4/1).

Table 3: Observations in each stage of *Paka*[9]

S.No	Stage of *Paka*	*Kalka*	*Sneha*
1.	***Ama Paka***	• Water content persists (++) • Produce crackling sound when put on fire • Very soft in consistency	• Water content persists (++) • Heterogenous media of water and oil/ghee • Crackling sound when put on fire
2.	***Mridu Paka* or *Manda Paka***	• Sticky on touch • Traces of water present (+) • Still produces crackling sound when put on fire	• Traces of water present (+) • Still produces crackling sound when put on fire
3.	***Madhyam Paka* or *Cchikana Paka***	• Not sticky • Free of water contents • Can be rolled into *Varti* (wick shape) when rolled between thumb and index finger • No crackling sound when put on fire	• Free from water contents • No crackling sound when put on fire • Froth appearance (oil) or Froth subsidence (Ghee) • Good color • Good odor • Desired taste of drugs.
4.	***Khara Paka* or *Khara Cchikana Paka***	• Paste is hard • Blackened • Rough • Water free and looks dry	• Color may change • Odor may change • Taste may change
5.	***Dhagdha Paka***	• Burnt *Kalka* • Rough, dry, black often charred • Burnt smell	• Essential contents of oil/Ghee partially lost • Loss of color • Loss of odor • Loss of taste

7. Effect of *Paka* on Therapeutics

Table 4: Effect of *Paka* on Therapeutics

S.No	Stage of *Paka*	C.S *(Ca. Kal. 12/104)*	Su. S *(Su.chi. 31/16)*	A.H *(As.Kal. 16/19)*	Sa. Sa [6]	H. S
1.	***Ama Paka***	-	-	No therapeutic use	No therapeutic use	-
2.	***Mridu Paka* or *Manda Paka***	*Nasya*	Oral (*Pana*)	*Nasya*	*Nasya*	-
3.	***Madhyam Paka***	Oral and	*Nasya* and	Oral and	Both external and	Oral and

	or *Cchikana Paka*	enema (*Basti*)	massage (*Abhyanga*)	enema (*Basti*)	internal administration	enema
4.	***Khara Paka* or *Khara Cchikana Paka***	Massage e	Enema and otic drops (*Karnapurana*)	Massage	Massage	Massage
5.	***Dhagdha Paka***	-	-	No therapeutic use	No therapeutic use	-
6.	***Vishesha Paka***	-	-	-	-	No therapeutic use

8. Dose [9]

Acharya Sharangadhara has mentioned a common dose for medicated *Sneha* for internal use as one *Pala* (48 g). [9]

9. *Anupana*: After taking Ghee one should take hot water. [11]

10. Time and season for Administration [10]

1. *Ghrita* should be used in *Sharada* season (Autumm) (Oct-Nov) because *Pitta* gets aggravated in this season naturally.
2. One should not take unctuous substances in either too hot or too cold weather.
3. In pre-dominance of *Vata, pitta dosha*, one must consume *Sneha* at night time while in *Kapha* dominant, *Sneha* must be taken at day time when sun is bright. On violating this law, *Vata*, *pitta* dominant personality will get affected with disorders like fainting, thirst, insanity and Jaundice. Whereas *Kapha* dominant personality will suffer from hardness of bowel, anorexia, colic pain or anaemia.

11. Shelf Life: 16 months [12]

Modern view - *Sneha* (Lipids)

Definition

1. Lipids are mostly consumed in the form of neutral fats, which are also known as triglycerides. Triglycerides are made up of glycerol nucleus and free fatty acids. Apart from triglycerides, they also contain small quantities of cholesterol and cholesterol esters. [13]

2. Types of Lipids [14]

Dietary fats are classified into two types

1. Saturated fats
2. Unsaturated fats

1. Saturated fats

Saturated fats are the fats which contain triglycerides formed only from saturated fatty acids. The fatty acids having maximum number of hydrogen ions without any double bonds between carbon atoms are called as saturated fatty acids.

2. Unsaturated fats

Fats containing unsaturated fatty acids are known as unsaturated fats. Unsaturated fatty acids are fatty acids formed by dehydrogenation of saturated fatty acids.

Unsaturated fatty acids are classified into three types:

1. Monounsaturated fats
2. Polyunsaturated fats
3. Transfats

1. Monounsaturated Fats

Unsaturated fats which contain one double bond between the carbon atoms are called mono unsaturated fats.

2. Polyunsaturated Fats

Unsaturated fats with more than one double bond between the carbon atoms are called polyunsaturated fats. Polyunsaturated fats belong to the family of essential fatty acids.

Polyunsaturated are of two types

1. Omega-3 fats or omega-3 fatty acids: They have double bond in the third space from the end of the carbon chain.
2. Omega-6 fats or omega-6 fatty acids: They have double bond in the sixth space from the end of the carbon chain.

   The diet containing 3:1 ratio of Omega -6 to omega-3 fatty acids is recommended.
3. Trans fats

They are unsaturated fatty acids, with molecules containing trans (across or opposite side) double bond between carbon atoms.

3. Metabolism of Lipids[12]

1. Digestion of Lipids

Lipids are digested by lipolytic enzymes such as lingual lipase (in mouth), gastric lipase (in stomach), pancreatic and intestinal lipase (in small intestine). The final products of fat digestion are-Fatty acids, cholesterol and monoglycerides.

2. Absorption of lipids

Monoglycerides, cholesterol and fatty acids form the micelles and enter the cells of intestinal mucosa by simple diffusion. From here further transport occurs. In the mucosal cells, most of the monoglycerides are converted into triglycerides. Triglycerides are also formed by re-esterification of fatty acids with more than 10-12 carbon atoms. Some of the cholesterol is

also esterified. Triglycerides and cholesterol esters are coated with a layer of protein, cholesterol and phospholipids to form the particles called chylomicrons. Chylomicrons cannot pass through the membrane of the blood capillaries because of the larger size. Hence these lipid particles enter the lymph vessels and then are transferred into blood from lymph.

Fatty acids containing less than 10-12 carbon atoms enter the portal blood from mucosal cells and are transported as free fatty acids or unesterified fatty acids. Most of the fats are absorbed in the upper part of small intestine. Presence of bile is essential for fat absorption.

3. Storage of lipids

Lipids are stored in adipose tissue and liver. Fat stored in adipose tissue is called neutral fat or tissue fat. When chylomicrons are travelling through capillaries of adipose tissue. or liver, the enzyme called lipoprotein lipase present in the capillary endothelium hydrolyses triglycerides of chylomicrons into free fatty acids (FFA) and glycerol. FFA and glycerol enter the fat cells (adipocytes or lipocytes) of the adipose tissue or liver cells. Then, the FFA and glycerol are again converted into triglycerides and stored in these cells. Other contents of chylomicrons such as cholesterol and phospholipids, which are released into the blood combine with proteins to form lipoproteins. When other tissues of the body need energy, triglycerides stored in adipose tissue are hydrolysed into FFA and glycerol. FFA is transported to the body tissues through blood.

4. Transport of lipids

Free fatty acids are transported in the blood in combination with albumin. Others lipids are transported in the blood in the form of lipoproteins. Lipoproteins are the small particles in the blood which contains cholesterol, phospholipids, triglycerides and proteins. Proteins are beta-globulins called apoproteins.

Discussion on *Sneha Kalpana* and lipids

The *Sneha Kalpana* comprises of *Sneha* (Lipid), *Kalka* (Paste of herbs) and *Drava* (Liquid media). Suitable *Sneha* is taken in specific proportion as oleaginous base and both the ingredients (*Kalka* and *drava*) are mixed and heated under a specific temperature (mild heat) to meet the desired therapeutic requirement. Out of all the *Sneha's*, *Ghrita* is the best due to its *Yogavahi* property which means *ghrita* attains the properties of the ingredients with which its processed without losing its own properties. *Ghrita* alleviates *Pitta* and *Vatta* disorders and is beneficial for *Rasa, Shukra, Ojas*, has cooling, softening effect, improves voice and complexion. It promotes memory, intellect, digestive power, *Kapha* and *Medas. Ghrita* is the glyceride of fatty acids, *Kalka* and *Drava* (*Kwatha,* milk etc) contain many potent therapeutically effective bio constituents and *Drava* also helps in dissolution of active principles into the *Sneha*. This processing with *Kalka* and *Drava* enhances the therapeutic value of *Sneha*. It is a dosage form that ensures extraction of the active lipophilic therapeutic constituents of the ingredients into the suitable oleaginous media. There are various factors that advocate its superiority over other *Kalpana*s such as, it is the only dosage form where lipid soluble extractives can be entrapped into a media. It is the only dosage form that can be administered through all routes of body, viz. *Nasya* (nasal route), *Tarpan* (ocular route), *Karnapooran* (auditory route), *Snehapan* (oral route), *Abhyanga* (topical route), *Basti* (vaginal, urethral, anal route). Being lipophilic in nature it can permeate through all bio-membranes passively and also cross the blood-brain barrier. Since they can be absorbed passively by diffusion, they have fast absorption rate and are therapeutically efficient. They have prolonged self-life (16 months) in comparison to other fundamental *Kalpanas*- *Kwatha* and *Kalka Kalpana* (1 day).

In the modern terminology, *Sneha* can be correlated with lipids. Lipids are mostly consumed in the form of neutral fats, which are also known as triglycerides. Triglycerides are made up of glycerol nucleus and free fatty acids. Dietary fats are of two types, i.e., saturated fats and unsaturated fats. Saturated fats are the fats which contain triglycerides formed only from saturated fatty acids. Fats containing unsaturated fatty acids are known as unsaturated fats. Unsaturated fatty acids are of three types, i.e., monounsaturated fats, polyunsaturated fats and trans fats. Polyunsaturated fats belong to the family of essential fatty acids. They are of two types, omega-3 fats and omega-6 fats. Lipids are digested by lipolytic enzymes called lipase and final products of fat digestion are fatty acids, cholesterol and monoglycerides. For absorption, monoglycerides, cholesterol and fatty acids form the micelles and enter the cells of intestinal mucosa by simple diffusion. From here further transport occurs. In the mucosal cells, most of the monoglycerides are converted into triglycerides. Triglycerides and cholesterol esters are coated with a layer of protein, cholesterol and phospholipids to form the particles called chylomicrons. These chylomicrons enter the lymph vessels and then are transferred into blood from lymph. Most of the fats are absorbed in the upper part of small intestine. Lipids are stored in adipose tissue and liver. Free fatty acids are transported in the blood in combination with albumin. Others lipids are transported in the blood in the form of lipoproteins.

In the modern era, various dosage forms can be developed as Novel Drug Delivery System (NDDS)

utilizing the concept of *Sneha kalpana* to increase the bio availability of drug to show maximum therapeutic effect Eg: Semisolid preparations intended to be applied on the skin, which may be oleaginous or may be emulsion of fatty substances /wax. Ointments are composed of various medicinal agents dispersed in a fatty base. Creams are the semisolid preparations consisting of two phases in which one is aqueous and the other is oily/fatty base. Liposomes are the spherical vehicle consisting of phospholipids in an aqueous environment. Ethosomes are the nanovesicles consisting of phospholipids and high count of ethanol (20–45%). Phytosomes are the bioactive components bound by a lipid or a complex of natural ingredients and phospholipids.

CONCLUSION

Sneha Kalpana is an Ayurvedic preparation of oleaginous medicine that is prepared with the use of *Kalka* (herbal paste of different parts of plants), *Kwatha* (specifically prepared decoction in accordance of Ayurvedic principles) or *Drava Dravya* (any other liquid such as milk, juices etc.) It is used to extract fat soluble active principles from drugs and also to increase permeability of drugs so that they can be absorbed easily through the cell membrane. It is the only dosage form that can be administered through all routes of body, viz., *Nasya* (nasal route), *Tarpan* (ocular route), *Karnapooran* (auditory route), *Snehapan* (oral route), *Abhyanga* (topical route), *Basti* (vaginal, urethral, anal route). In the modern terminology, *Sneha* can be correlated with Lipids and various dosage forms can be developed as novel drug delivery system (NDDS) utilizing the concept of *Sneha Kalpana* (Lipids) to increase the bio availability of drugs to show maximum therapeutic effect.

References

1. Meena.M & Sharma.R, 2020, Bhaishajya Kalpana vigyana, Jagdish Sanskrit Pustakalaya, Chapter-6, p 204-230.
2. Sastri.K and Chaturvedi.G, 2013, Caraka Samhita, Chaukhambha Bharti Academy, Volume 1, Sutrasthan, Chapter-27, p552.
3. Shukla.V, Charak Samhita, Chaukhamba Surbharati Prakashan, Varanasi, Reprint-2005, Sutrasthan-chapter 13/9, 13/13, p183, p184.
4. Shastri.A, 2011, Sushruta Samhita, Chaukhambha Sanskrit sansthan, Part-1, Chikitsa sathan, Chapter-31, p 165-172 .
5. Sastri.K and Chaturvedi.G, 2013, Caraka Samhita, Chaukhambha Bharti Academy,Volume 1, Sutrasthan, Chapter-13, p257.
6. Shrivastava.S, 1996, Sharangdhar Samhita, Chaukhamba Orientalia, Madhyam khand, Chapter-9, Verse-15-18, p 217-218.
7. Tripathi.B, 2007, Ashtang hridayam, Chaukhambha Sanskrit pratishthan, Sutrasthan, Chapter 16, p 203-212.
8. Mishra.S, 2007, Bhaishajyaratnavali, Chaukhamba Surbharati prakashan, Chapter 5, Verse 1264-1266, p 206.
9. Shrivastava.S, 1996, Sharangdhar Samhita, Chaukhamba Orientalia, Madhyam khand, Chapter-9, p 215-243.
10. Sastri.K and Chaturvedi.G, 2013, Caraka Samhita, Chaukhambha Bharti Academy, Volume 1, Sutrasthan, Chapter-13, p 255-280.
11. Shrivastava.S, 2015, Sharangdhar Samhita, Chaukhamba Orientalia, Purva khand, Chapter-1, Verse-52,p 12.
12. Sembulingam.K, 2016, Essentials of Medical Physiology, Jaypee brothers medical Publishers Pvt. Ltd., Chapter-47, p 292-297.
13. Sembulingam.K, 2016, Essentials of Medical Physiology, Jaypee brothers medical Publishers Pvt. Ltd., Chapter-47, p 292-297.

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