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A Review on *Guggulu Kalpana (Commiphora Wightii)* in Ayurveda

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ABSTRACT

Bhaishajya Kalpana deals with the Basic Ayurvedic pharmaceuticals like *Panchavidha Kashaya Kalpana* and other secondary formulations like *Churna, Vati, Guggulu, Sneha* and *Sandhana Kalpana*, among all these *Kalpanas* now a days *Guggulu Kalpana* is widely used. It is used not only as medicine but also in religious rituals. The earliest reference of *Guggulu* is found in *Atharvaveda*. *Guggulu* is exudate (*Niryasa*) of *Commiphora wightii* (Arn. Bhandari). It is translucent, solid, sticky adhesive, oilo-gum-resine. *Guggulu* is used as a binding agent and also as a main ingredient in various formulations. When *Vati* is prepared with *Guggulu*; known as *Guggulu Vati Kalpana*. In classical text, there is no separate chapter for *Guggulu Kalpana*. In *Sharangadhara Samhita*, *Guggulu Kalpana* is described under *Vati Kalpana*. A screening through *Brihatrayee* revealed that, *Guggulu* was preferred to be dispensed internally in the form of liquid or semi-liquid or semi-solids. *Guggulu* in *Vati* form entered in the field of therapeutics after 11th AD (Chakradutta), because of certain added advantages of solid dosage forms. Later on, *Guggulu* was widely used in *Vati* form other than remaining internal forms. Generally, two methods of preparation are found for *Guggulu Kalpana*. They are *Sagni (Paka method)* and *Niragni (Kuttana method)* method. In addition, *Adityapaka method* and *Bhavana* was found for preparation. Ayurveda advocates that *Guggulu* must be administered only after purification i.e. *Shodhana*. The current trend of Ayurvedic pharmaceuticals mainly shows the use of *Guggulu* in the form of *Gutika* or *Vati*.

Key words: *Guggulu, Kalpana, Vati, Commiphora wightii, Ayurvedic pharmaceuticals.*

INTRODUCTION

Ayurveda is based upon 'Trisutras' (*Hetu, Linga* and *Aushadha*). Amongst them *Aushadha* is most important. It is next to physician in *Chatushpada*.^[1] *Aushadhi Nirmana* is divided in two branches

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1. *Rasa Shastra* 2. *Bhaishajya Kalpana*. *Bhaishajya Kalpana* consists of primary formulations like *Panchavidha Kashaya Kalpana* and other secondary formulations like *Churna, Vati, Guggulu, Sneha* and *Sandhana Kalpana*, among all these *Kalpanas* now a days *Guggulu Kalpana* is widely used. It is used not only as medicine but also in religious rituals. The earliest reference of *Guggulu* is found in *Atharvaveda*. From that time to till now, *Guggulu* is served to human being as highly valuable medicinal herbal. *Guggulu* is described as *Yakshmanashana* in *Atharvaveda* (A.V.19/38/1). There is categorical description that who has the smell (*Gandha*) of herb like *Guggulu*, diseases can't effect on him. It is quoted in *Dravaka Gana* and *Mitra Panchaka Gana* as a reducing agent for different metals and minerals. *Guggulu* is exudate (*Niryasa*) of *Commiphora wightii* (Arn. Bhandari). It is translucent, solid, sticky

adhesive, oilo-gum-resine. Its extracts contains Z- and E- isomers of guggulsterone and its related guggulsterols.^[2] *Guggulu* is used as a binding agent and also as a main ingredient in various formulations.

Kalpana is the process through which a substance can be transformed in to the form of medicine according to the need. The *Aushadha Kalpana* is prepared by different pharmaceutical processing techniques applied to the crude drugs to get the desired therapeutic effect. This processing results in transformation of good pharmacological action to that of substance. These pharmaceutical processes are known as “*Samskaras*”. *Samskara*, one of the essential basic principles of Ayurvedic Pharmaceutics, which are meant for modifying the inherent *Naimittika Gunas* of *Dravya* as per the requirement and make the drugs suitable for therapeutic purposes. Alteration in the qualities of a substance can be done with the help of factors like; *Toya Sannikarsha*, *Agni Sannikarsha*, *Toyagni Sannikarsa*, *Shaucha*, *Manthana*, *Desha*, *Kala*, *Vasana*, *Bhavana*, *Kala Prakarsha*, *Bhajana*.^[3] There are many formulations described in Ayurveda from simple *Churna* of herbal drugs to complex preparations. They all are called as *Aushadhi Kalpana*.

When *Vati* is prepared with *Guggulu*; known as *Guggulu Vati Kalpana*. In this preparation *Guggulu* is as a main ingredient (approx 50%). In classical text, there is no separate chapter for *Guggulu Kalpana*. *Maharishi Haritha*^[4] due to wide range of action of *Guggulu* have mentioned this drug as a separate chapter named as *Guggulu Kalpa*. The reference of it is mainly found in *Sharangadhara Samhita*.^[5] Where he has described *Guggulu Kalpana* under *Vati Kalpana*, but because of its popularity, latest Ayurveda texts given separated chapter for *Guggulu Kalpana* as *AFI* and *Bharat Bhaishajya Ratnakara*.

Guggulu Vati formulations

Details of *Guggulu Vati* formulations explained in *Vrundamadhava* (9th AD), *Chakradutta* (11th AD), *Gadanigraha* (11th AD), *Vangasena Samhita* (11th AD), *Rasaratna Sammuchaya* (12th AD), *Sharangdhara*

Samhita (13th AD), *Bhavaprakasha* (16th AD), *Yogaratanakara* (17th AD), *Bhaishajya Ratnavali* (18th AD) and *Rasayogasagara* (20th AD) with their dose, *Anupana*, *Guggulu* percentage, indications are also mentioned.

Guggulu Pariksha

Characteristics of genuine *Guggulu* is as below:

1. *Astanga Sangraha*, *Uttar Tantra*, 49/162
 - Intense smell,
 - *Snigdha*, *Pichchila* and
 - Free from physical impurity.
2. *Kaiyadeva Nighantu*, *Aushadhi Varga*, 1412
 - Melts in sunlight
 - Immediately burns in fire.
3. *Rasa Ratnakara*, *Rasa Khanda*, 10th *Upadesha*/76
 - Burns in fire,
 - Melts in sunlight and
 - Gives milky emulsion in lukewarm

Guggulu, which is brittle, dull in colour and of older in age, should be *Agrahya* for treatment.

Guggulu Kalpa formation contains two steps:

1. *Guggulu Shodhana*
2. Preparation of *Guggulu Kalpa*

1) Guggulu Shodhana

To make it fit for internal use also, it has to undergo the process of *Shodhana*. *Shodhana* is the process of removal of physical, chemical impurities and potentiating of the drugs.^{[6],[7]} There are different medias explained in literature for *Shodhana* of *Guggulu*.^{[8],[9]} According to the media of purification the quality and pharmacological properties of *Guggulu* may vary. Depending on the change in properties the therapeutic effect may also vary.

Table 1: Showing different methods of Guggulu Shodhana.

Procedure	Reference	Method
Swedana (boiling in liquid)	<ul style="list-style-type: none"> Rasa Tarngini, 24/579-580, Rasajalanidhi, Trutiya Khanda,8,p.359 Brihata Rasa Raj Sundar, Madhyam Khanda, Shilajita Prakarana. 	Guggulu is to be bounded in a cloth and boiled in specified media, till maximum portion of Guggulu enters into liquid. After cooling, the sediment part is to be collected and used as Shuddha Guggulu.
Swedana and frying in Ghee	<ul style="list-style-type: none"> Anand Kanda, 15th Ullasa/307 	Small pieces of Guggulu are to be fried in cow's Ghee and dissolved in specified liquid in Dolayantra.
Dipping in Ghee	<ul style="list-style-type: none"> Dipika Tika on Sharngdhara Samhita, Madhyama Khanda 7/70-81 	Guggulu is to be immersed in Ghee for 7 nights.

As the different techniques are described for the Shodhana of Guggulu, like wise various liquid media are also prescribed for the purification of Guggulu like Triphala Kwath, Dugdha, Guduchi Kwatha, Pancha Tikta Kwatha, Dash Moola Kwatha, Nimba Patra Kwatha with Haridra Churna, Gomutra, Vasa Patra Swarasa, Vasa Patra Kwatha, Nirgundi Patra Swarasa with Haridra Churna, Water, Gogrita in various Samhitas.

2) Preparation of Guggulu Kalpa

Guggulu Kalpas are made with following three methods

1. Somapaka: a) Kuttan b) Mardan
2. Adityapaka
3. Analpaka

1) Somapaka

Heat is not used directly or from sun while preparing Guggulu Kalpa or after preparation of Kalpa that is called as Somapaka. This method has again two types:

a) Kuttana Vidhi: In this, Guggulu is hammered with Goghrita and powders are added simultaneously. When getting uniform mixture, Vati is prepared.

b) Mardana / Bhavana Vidhi: Triphala Guggulu, Bhavaprakasha, Vatarakta 29/213-221. In this formulation, 7 Bhavana of liquid media are given to Guggulu.

2. Adityapaka / Suryapaka: Banga Sen Samhita, Vatavyadhi/214-216

In this preparation, Guggulu is mixed with other powders, after that, Dashamoola Kwatha is added to it and drying is done in sun rays. Addition of Kwatha and drying is repeated for 7 times.

3. Analpaka / Sagnipaka Vidhi:

In this, Guggulu is melted in liquid media and heating is done till get proper consistency. Then other powders are mixed in it and make Vati.

Method of preparation of Guggulu Vati^[10]

Guggulu Vati prepared by Paka method is as follows:

- First the Guggulu is to be taken and small quantity of water, Kashaya, Swarasa is to be added to dissolve the Guggulu in it.
- It is then heated till it attains the Paka Lakshana and later the fine powder of all the ingredients is to be added and boiled till it attains Paka Lakshana.
- It is then rolled into Vati form with little ghee and dried properly.
- The colour and other characteristics of Guggulu Kalpana vary from preparation to preparation depending upon the ingredients added to the specific formulation

Guggulu Paka Lakshana^[11]

The Paka Lakshana of Guggulu can be classified into 2 types,

1. Pakakaleene (during the time of Paka)

- The *Paka* material sticks strongly to the spoon while stirring.
- It attains three to four thread consistencies.
- It settles down in the bowl of water without spreading.
- It remains very soft and sticky to touch.

2. Pakaanantara (after Paka)

- Desired colour, odour, and taste of the ingredients are to be obtained
- Finger prints are imparted over the *Paka* material.

Siddhi Lakshana

- *Guggulu Paka* is similar to *Gudapaka*, only difference of its ingredients (*Guggulu*) and in *Guggulu Paka*, pleasant smell and taste are differed from *Gudapaka*.
- In *Guggulu Kuttana* (hammering) method, *Guggulu* become like *Varti* as it's more hammered.

Preservation: Prepared *Guggulu Kalpas* should be kept in air tight glass containers. If sugar, salt or *Kshaara* is an ingredient, the pills should be kept away from moisture.

Dose

Table 2: Showing references of dose of Guggulu in different classics.

SN	Reference	Matra
1.	<i>Astanga Samgraha, Uttartantra</i> 49/162	Up to 1 Tula (100 Pala) must not take more than 1 Pala in a single dose.
2.	<i>Aananda Kanda, 15th Ullasa</i> /310	1 Nishka (3 g.) to 1 Karsha (10 g.) daily
3.	<i>Harita Samhita, Kalpa Sthana</i> 5/19	1 Karsha (10g.) to 1 Pala (48g.)
4.	AFI, Vol 1, page no. 58	2-4 g.

5.	Pt. Vishwanath Dwivedi (commentary of <i>Bhavaprakasha Nighantu</i>)	2-4 Masha
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Anupana

- It can be given along with *Go-Dugdha* (cow's milk), *Jala* (water) or liquid preparation like *Triphala Kwath*, *Darvi Kwatha*, *Patol Kwatha* etc. according to the disease.
- *Anupana* used according to *Rutu* explained in *Sushruta Samhita*.^[12]
- In *Varsha* and *Grishma* : *Ghrita*
- In *Sharad* and *Vasant* : *Triphala Kwatha*
- In *Hemant* and *Shishira* : *Gomutra*

Shelf Life

Pills made of plant drugs, when kept in air tight containers, can be used upto two years. Pills containing minerals can be used for indefinite period as mention in the *Sharangadhara Samhita*, *Vati* made from the plant drugs when kept in air tight container can be used up to the one year. Pills / Vatis should not lose its original colour, smell, taste and form.

Apathya

During the administration of *Guggulu* following things should be avoided;

Amla (sour) *Dravya*, *Tikshna* (pungent) *Veeryadravya*, *Ajirna* (dyspepsia), *Vyavaya* (sexual indulgence), *Shrama* (fatigue), *Madya* (alcohol), *Krodha* (anger) all should be avoided during the administration of *Guggulu*.^[13]

Ati Matra Sevana Vikara

Long term and higher dose administration of *Guggulu* may lead To *Timira* (blindness), *Vadanshosh*a (dryness of mouth), *Klibata* (impotency), *Karshya* (emaciation), *Moha* (delusion), *Samal Shithil Bhava* (diarrhoea), *Deha Raukshya* (dryness of skin) etc.^[14]

DISCUSSION

Historically the *Guggulu* has been evolved as *Amruta* (nectar) for replenishing the lost *Bala* (strength) of *Devathas* (gods) in *Devaasura Sangrama* (battle of gods and demons) and it has been used as a good fumigating agent in olden days. A screening through *Brihatrayee* revealed that, *Guggulu* was preferred to be dispensed internally in the form of liquid or semi-liquid or semi-solids. Perhaps, it may be because of disintegration problem with *Guggulu* was known by seers.

Table 3: Different doses forms of Guggulu in various texts

Forms	Ch..Sa.	Su.Sa.	A.S.	Ga.Ni.	Sh.Sa.	Bha.Pra.	Bha.Ra.	Ra.Yo.S
<i>Lepa/Pra deha</i>	04	01	12	03	-	01	01	-
<i>Dhoopana</i>	07	08	18	22	01	03	09	-
<i>Ghruta</i>	02	02	06	05	-	03	06	-
<i>Tail</i>	01	-	05	15	-	03	06	-
<i>Gutika</i>	01	-	02	48	06	35	50	67
<i>Panyoga</i>	04	-	15	11	03	11	18	02
<i>Churna</i>	02	04	07	06	01	02	03	10
<i>Modak/ut kariaka</i>	01	-	01	-	01	-	-	02
<i>Ksheerpa ka</i>	-	01	-	-	-	-	-	-
<i>Kwatha</i>	-	-	02	07	-	02	03	-
<i>Asava/ch ukra</i>	-	-	02	01	-	-	-	-
<i>Lehana</i>	-	-	02	-	-	02	05	10
<i>Nasya</i>	-	-	01	-	-	01	-	-

<i>Kalka</i>	-	-	-	01	-	-	-	-
<i>Vatak</i>	-	-	-	01	-	-	-	-
<i>Malahara</i>	-	-	-	-	-	-	01	-

Guggulu in *Vati* form entered in the field of therapeutics after 11th AD (*Chakradutta*), because of certain added advantages of solid dosage forms. Later on, *Guggulu* was widely used in *Vati* form other than remaining internal forms. It may be due to good binding capacity of gum and also *Yogavahi* nature of drug which increases efficacy of formulation.

Generally, two methods of preparation are found for *Guggulu Kalpana*. They are *Sagni* (*Paka* method) and *Niragni* (*Kuttana*) method. In addition, *Adityapaka* method and *Bhavana* was found for preparation. Ayurveda advocates that *Guggulu* must be administered only after purification i.e. *Shodhana*. The *Guggulu* has many media for its purification and the specific *Dravya* used for its purification enhance the medicinal property of *Guggulu*; it increases its therapeutic utility also detoxify it, thus making safer for human consumption. The *Guggulu Kalpana* is a very important formulation where the drug augments the formulations with the other drugs in it without losing its potency and it acts effectively in treating the diseases.

The *Guggulu* when modified into different formulation like *Churna*, *Ghruta*, *Avaleha* etc. can also be used in treating many diseases along with the different combination of a single drugs. With variation in *Anupana*, *Guggulu Kalpana* will also be beneficial in treating many diseases as the mode of action depends on the type of *Anupana* (adjuvant) used. The *Guggulu Kalpana* is indicated in almost all the *Strotovikaras* and also a number of research works have been proved the wide range of action of *Guggulu*. The challenge in this venture is the genuinity of raw drug *Guggulu* and the media of *Shodhana* selected.

CONCLUSION

Now a days in Ayurvedic pharmaceuticals *Guggulu* is mainly used in the form of *Vati* or *Gutika* only. But in

classics reference of its use in different dosage forms like *Churna*, *Asava* etc. are found. But It is mainly used in the form of *Vati* because of its good binding property and increased therapeutic action. The *Guggulu Kalpana* in particular is generally influenced by *Sharangadhara Samhita*. The current trend of Ayurvedic pharmaceuticals mainly shows the use of *Guggulu* in the form of *Gutika* or *Vati*. Thus it can be said that due to its wide of utility the *Guggulu Kalpana* is gaining popularity in recent days. And also studies have revealed the therapeutic efficacy of various *Guggulu Kalpana*. The *Guggulu Kalpana* should be understood and pronounced in detail with a physicians and point for better results in treatment of diseases. As *Guggulu* acts on *Rasa*, *Rakta* etc. all *Saptadhatu* as mention in *Samhitas*. According to *Srotas* where we need action of *Guggulu* the drug which are useful on that *Srotas* should be used mixed with *Guggulu*. In this way we can use the various *Guggulu Kalpas* on various diseases.

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