

REVIEW ON USES OF GUGGULU & GUGGULU FORMULATIONS IN AYURVEDA

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ABSTRACT

Ayurvedic medicines are popularising worldwide for the treatment of various diseases in recent times. *Guggulu* is a popular herbal drug which has been used as in single form or compound form to treat several ailments since a long time in India. The oleo-gum or the resin of *guggulu* obtained from stem is the main part, which has been used for therapeutic uses. The usage of *guggulu*, without subjecting to *shodhana* (detoxification process) may lead to certain side effects like gastric irritation and gastric distress. So the process of *shodhana* becomes imperative in different media is essential to make crude drug for internal uses. In addition to it, *shodhana* of *guggulu* in different media will bring specific properties to *guggulu*.

Keywords: Ayurveda, *Commiphora mukul*, *guggulu*, *Sodhana*.

INTRODUCTION

Now a day's Indian system of medicine is gaining more popularity worldwide for its traditional treatment through natural drugs. It is one of the oldest scientific traditional medical systems in India. *Guggulu* is a popular herb in Ayurveda that is used to treat several ailments. *Guggul*, the *Commiphora mukul*, is a small thorny tree that is native to the Middle East and the Indian plains. Generally leafless, the tree exudes a thick, sticky resin that has been used in Ayurvedic medicine for centuries. The name *Guggul*, means "one that protects against diseases. The reference of *guggulu* is found since the time of Vedic Period use as a *dupa* (fumigant). From the Samitha period, it has been substantially used for therapeutic purpose.^{1,2,3} In *Sarangadhara Samhita* different *Guggulu* formulations are found in *Vati Kalpana* (Tablet/Pills) contest. *Guggul* is one of the "broad spectrum" health products with a wide range of benefits.⁴

Vernacular Names:

Commiphora mukul (Hook. ex Stocks)
Engl. Plant Family: *Burseraceae* Eng. – Hill Mango, Gum guggul, Indian Bdellium, Hindi – Guggul, Gogil, Guggul, Gugal, Mukul, Rangan, Turb, Beng- Guggul, Gugal, Mukul, Rangan, Turb. Guj- Guggul, Gugal, Mukul, Rangan, Turb. Kan- Kondamamidi, Guggule, Guggala. Mal- Itinnil. Mar.- Guggul, Guggul, Guggala, Tam.- Kiluvai, Maishakshi, Gukkal, Guggulu, Tel.- Kondamamidi, Guggul, Maisakshi, Arab. – Moql, Moqle- arzagi, Moqle-arsaqi aflatana, Muqlul yahud. Pers.- Baijahundana. Sing- Gugula, Ratadummula. Sind- Gugaru. Unani- Afaletana, Mikal.⁵

Botanical Description & Distribution:

A small tree or shrub with spine scent branches, 1.2-1.8 m high. Leaves palmately trifoliate, the terminal leaflet biggest, margin crenate. Flowers brownish-red, in fascicles of 2-3; pedicels very short. Drupes red when ripe,

6-8 mm diam., ovoid, acute; epicarp 4-valved; pyrenes ovate, acute, readily splitting into 2. This plant is found on the banks of the Ganges at Mayagunj, Bhagalpur, Bihar and Orissa, in arid rocky tracts of Rajasthan, Khandesh, Deccan, Bellary and Mysore. It is sometimes planted in hedges.^{6,7}

Cultivation and collection of oleo-gum-resin:

Guggulu is exudates obtained from the plant *Commiphora mukul*. There are five different varieties of *Guggulu* described in the texts. However, two of the varieties, namely mahisaksa & kanaka *Guggulu* are usually preferred for medicinal preparations. *Mahisaksa Guggulu* is dark greenish brown and *Kanaka Guggulu* is yellowish brown in colour. The *Guggul* tree grows as a woody tree in sandy loam soil with more gypsum content, with pH 7.5-9. *Guggul* plant can be propagated both by seed and stem cutting in the arid or semi-arid zones, sloppy well drained lands are preferred for this purpose. The seeds are collected in July-September when the viability is more. The plants are raised through nursery beds and transplanted after 6 months. Oleo-gum-resin is collected from at least 5 years old plants. It is tapped from main stem with 7.5 cm diameter on which deep incisions are made. It should be noted that the resin ducts occur only in bark portions near cambial layer. Thick branches of tree give best grade of *guggul*. Each plant gives from 0.5-1 kg of *guggulu* per year. Circular incisions are made on the main stem from which a pale yellow fluid exudates, which is aromatic in nature and quickly solidify to form agglomerates of tears of golden brown or reddish brown colour. The dried resin has bitter aromatic taste & balsamic odour.⁵

Need of *guggulu* Purification:

As *Guggulu* is an exudate, external

impurities in the form of dust, dry leaves, and other foreign materials are mixed in *Guggulu*.⁸ After purification, the herb becomes safer and more effective for use and studies also reported reduced toxicity with purified *Guggulu*.⁹ It has been mentioned that administration of raw *Guggulu* may sometimes lead to skin rashes, irregular menstruation, diarrhea, headache, mild nausea, and with very high doses, liver toxicity.¹⁰ As raw *Guggulu* cannot be used directly, *Guggulu* preparations started with purification of *Guggulu*.

Process of Purification:

Guggulu Shodhana. *Dolayantra* method was firstly described in *RasaTarangini*. Though *Guggulu* is a gum-resin part of the plant, so there may be chance of mixing during collection time, for that the impurities like sand, stone, glass etc. are first removed before going to purification. It is then converted into small pieces, keeps it in a piece of cloth, and makes it bundle. It is thereafter suspended in *Dola Yantra* containing any one of the following liquid like (a) *Gomutra* (b) *Triphala kasaya*. (c) *Vasapatra Kasaya*. (d) *Vasapatra Svarasa*. (e) *Nirgundi patra Svarasa* with *Haridra Churna* And (f) *Dugdha*. The boiling is continued till the *Guggulu* becomes a soft mass. The boiling of *Guggulu* in *Dola Yantra* is carried on until all the *Guggulu* passes into the fluid through the cloth. The residue in the bundle is discarded. The fluid is filtered and heated till it become concentrated and forms a mass. This mass is dried in sunlight and preserved in a tight glass container.^{11,12}

Guggulu Paka Lakshana:

The *paka lakshna* of *guggulu* can be classified into 2 types such as (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. (1) *Pakaanantara* (after *paka*) : Desired colour, odour, and taste of the ingredients are to be obtained Finger prints are imparted over the *paka* material.¹³

Dose adjuvant and shelf life: One *karsha* (approx. 12 g) .It can be given along with *godugdha* (cow's milk), *jala* (water) or liquid preparation.

Characteristics:

Purified *Guggulu* is soft, waxy, and brown in colour. Characteristics of preparations of *Guggulu* are vary, depending on the other ingredients added to the preparations.

Preservation and Storage:

It should be kept in glass or porcelain jars free from moisture and stored in a cool place. The potency is maintained for five years when prepared with ingredients of plant origin

and indefinitely when prepared with metals and minerals.

Substitutes and Adulterants:

The gum resin of *Commiphora wightii* (Arn.) *Bhand* is a common adulterant to myrrh or herbal myrrh of commerce which is derived from *Commiphora myrrha* (Ness) Engl. The Indian adulterant of gum resin of *Commiphora wightii* (Arn.) *Bhand*. are the gums of *Boswellia serrata* Roxb. Ex Colebr. And *Hymenodictyon excelsum* (Roxb.) Wall. Both species occur in arid zones along hilly regions. However adulteration of gum of *Boswellia serrata* is more common in Indian market as colour and smell of the gum resin resemble *C. roxburghii* (Arn.) Engl. and *C. opobalsamum* (Linn.) Engl. which also yield 700 gm to 1.0 kg of gum *guggulu* collected in cold season. Gum resin is often mixture or adulterated with resin yielding plants.^{5,14}

Different Ayurvedic Guggulu formulation:^{15,16,17,18}

Sl. No	Name of the formulation	Reference text Chapter /Shloka no	Indication	Dosage
1.	<i>Kanchannara Guggulu</i>	<i>Sarangadharasamhita Madhyamakhanda (ch -7 / Slk no.95-98)</i>	<i>Gulma, Gandamala, Apaci, Granthi, Vrana, Kustha, Bhagandara, Slipada</i>	3g.
2.	<i>Kaisora Guggulu</i>	<i>Bhaisajyaratnavali Vataraktadhikara (Slk no. 97-101)</i>	<i>Mandagni, Vibandha, Meha. Vatasonita, Kasa, Kustha, Pramehapidaka, Vrana, Gulma, Svayathu, Pandu, Meha.</i>	3g.
3.	<i>Goksuradi Guggulu</i>	<i>Sarangadharasamhita Madhyamakhanda (ch -7 / Slk no.84-86)</i>	<i>Prameha, Mutra Krichha, Mutraghata, Asmari, Pradara, Vatarakta, Vataroga, Sukradosa.</i>	3g.
4.	<i>Trayodasanga Guggulu</i>	<i>Bhaisajyaratnavali Vatavyadhyadhikara (Slk no.89-89 1/2)</i>	<i>Katigraha, Gridhrasi, Hanugraha, Bahusula, Janu Stabdhatta, Asthivata, Majjavata, Snayuvata, Hrtgrah, Vatakapha roga, yonidosa, Asthi bhagna, Vidradhi, Khanja vata</i>	3g.
5.	<i>Triphala Guggulu</i>	<i>Sarangadharasamhita Madhyamakhanda (ch -7 / Slk no.82-82 1/2)</i>	<i>Sotha, Bhagandara, Arsa, Gulma</i>	3g.

6.	<i>Maha Yogaraj Guggulu</i>	<i>Sarangadharasamhita Madhyamakhandha (ch -7/Slk no.56-60)</i>	<i>Gulma, Udavarta, Vata roga, Prameha, Bhagandara, Vatarakta, Kustha, Arsa, Grahani, Netraroga Nabhisula, Ksaya, Apasmara, Urograha, Mandagni, Svasa, Kasa, Aruci, Sukradasa, Sotha, Vandhyatva, Sula, Pandu, Medovrddhi, rasayana.</i>	½ to 1g.
7.	<i>Yogaraja Guggulu</i>	<i>Bhaisajyaratnavali Amavataadhikara (Slk no.90-93)</i>	<i>Udararoga, Amavata, Adhyavata, Krimi, Dusta Vrana, Plihavridhi, Gulma, Anaha, Arsa, Agnimandya, Daurbalya, Sandhigata Vata, Majjagata Vata.</i>	3g.
8.	<i>Laksa Guggulu</i>	<i>Bhaisajyaratnavali Bhagnadhikara (Slk no.12-13)</i>	<i>Asthi bhanga, Asthi cyuti, asthiruja</i>	Warm water
9.	<i>Vyosadi Guggulu</i>	<i>Astangahrdya Cikitasthana, (ch -21/Slk no.49)</i>	<i>Medoroga, Kapha roga, Amavata</i>	3g.
10.	<i>Vatari Guggulu</i>	<i>Bhaisajyaratnavali Amavatadhikara (Slk no.87)</i>	<i>Amavata, Katisula, Gridhrasi, Khanja, Vatarakta, Pangu, Sotha, Daha, Krosthru, Sirsaka.</i>	3g.
11.	<i>Saptavimsatika Guggulu</i>	<i>Bhaisajyaratnavali Bhagandaradhikara (Slk no.16-18)</i>	<i>Hrcchula, Kasa, Swasa, Parswasula, Sotha, Arsa, Bhagandara, Kuksi ruja, Vaktraruja, Gudaruja, Asmari, Mutrakrichha, Antra Vriddhi, Krimi, Jwara, Ksaya, Apasmara, Unmada</i>	6g.
12.	<i>Simhanada Guggulu</i>	<i>Bhaisajyaratnavali Amabatadhikara (Slk no.130-131)</i>	<i>Khanja, Pandu, Amavata, Vatarakta, Kustha, Vataroga, Kapha Roga, Pittaroga, Pangu, Swasa, Kasa, Gulma, Sula, Udara, Jara, Palita, Agnimandya</i>	3g.
13.	<i>Panchamrita Lauha Guggulu</i>	<i>Bhaisajyaratnavali Mastiskarogadhikara (Slk no.52-53)</i>	<i>Mastiskaroga, Snayuruja, Vataroga</i>	375mg.
14.	<i>Punarnava Guggulu</i>	<i>Bharatabhaisajya Trityobhaga</i>	<i>Vatarakta, Vriddhiroga, Gridhrasi, Janghauru-prsthatrikasthana and Vastigatasula, Amavata</i>	3g. in divided doses
15.	<i>Varadi Guggulu</i>	<i>Bhaisajyaratnavali Upadamsaroga-cikitsa-prakarana</i>	<i>Upadansha, Dusta Vrana</i>	2g.

		(Slk no.65)		
16.	Vidangadi Guggulu	Yogaratnakara Vranasodhanaropanavidhi	Dusta Vrana, Apachi, Meha, Kustha, Nadi Vrana	1-2g.
17.	Saptanga Guggulu	Cakradatta Bhagandhara-cikitsa- prakarana (Slk no.15)	Nadi Vrana, Dusta Vrana, Vrana Sula, Bhagandara	1-3g.
18.	Amrtadi Guggulu	Bhavaprakasa Vatarakta-cikitsa	Amlapitta, Vatarakta, Kustha, Arsha, Agnimandya, Dusta Vrana, Prameha, Amavata, Bhagandara, Nadi Vrana, Adhya Vata, Swayathu	250- 500mg. twice a day
19.	Yogattama Gutika	Gadanigraha Prayogakhanda, Gutikadhikara (Slk no.473-482)	Vata roga, Prameha, Udara Roga, Kustha, Gulma, Pandu, Kasa, Swasa, Ksaya, Arsa, Bhagandara	1-3g. twice a day
20.	Guggulvadi Vati	Brhannighantu-ratnakara raktarsacikitsa	Arsa, Vataroga	500mg- 1gm. Twice a day
21.	Rasnadi Gutika	Bhaisajyaratnavali Vatavyadhi-chikitsa- prakarana (Slk no.43)	Gridhrasi, Vataroga	500ml- 1g. twice a day

Dose: 2-3 gm per day¹⁹

During the administration of *Guggulu* the patients should be advised not to take *Amla rasa*, *Tikshna guna* predominant drug and diet. Should also not drink *Madya* and to avoid *Ajirna bhojana*, *Maithuna*, *Vyayama*, *Atapa sevana*.²⁰

Characteristics:

Purified *Guggulu* is soft, waxy and brown in colour. Characteristics of preparations of *Guggulu* are varying, depending on the other ingredients added to the preparations.

Necessary for Purification:

Olio resin part of *Guggulu* which has been used for therapeutic purpose is a raw material. So there is a chance of impurities in it. Hence, purification must be done before preparing medicine. It removes the external impu-

rities and insoluble aqueous part. Secondly, media used in the process of *shodhana* has very important role in either Breaking down or destroying unwanted chemical constituents, reducing disintegration time and bringing more therapeutic efficacy.²¹

CONCLUSION

Administration of raw *Guggulu* may settle in inconveniences, it should be used after proper *shodhana*. First reference regarding *Guggulu shodhana* is found in *Harita Samhita* and later in *Chakradatta*. Various research works proved therapeutic importance of *shodhita Guggulu*. There are four methods for *Guggulu shodhana*. As *shodhana* in *dolayantra* has certain difficulties, commercially *Guggulushodhana* is being done by dissolving method.

Godughdha, *Gomutra*, *Triphala Kwatha*, *Guduchi Kwatha* are common and mostly used medias described for *Guggulu Shodhana*. From the ancient times, plants have been used for treatment of variety of disease. *Guggul* preparations are widely available and employed by practitioners traditionally in natural health for treatment of detoxifying, obesity, joint pain, arthritic conditions, muscle ches, rheumatism, and gout. Research studies showed that *guggul* is effective against aspects of cardiovascular disease. More recently, *guggul* was found to be a relatively safe and effective supplement for osteoarthritis of the knee joint. To understand the molecular mechanisms responsible for the diverse pharmacological effects of *guggul*, vast research studies are going on. The present review describes the various updated research of *guggul* & novel use in the various disease and health problems.

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