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### **Review Article**

# A REVIEW ON PROBABLE MODE OF ACTION OF *GANDHAKA RASAYANA* - AN AYURVEDIC HERBO-MINERAL FORMULATION WITH MULTIFACETED ACTION

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#### **ABSTRACT**

As per ancient Ayurvedic scholars for getting a desirable outcome of any medication, it should be precisely analysed before prescribing to the patient. There are numbers of classical formulations successfully practiced by Ayurvedic physicians for treating various ailments but in maximum cases there is lack of data regarding their details mechanism of action. Such one multidrug classical formulation is *Gandhaka rasayana* which is widely practiced Ayurvedic formulation. *Gandhaka rasayana* have been used in Ayurvedic *Rasashastra* to treat various types of diseases related to *Tvak, Mandhagni*, various *Srotas*. It is a time tested formulation used by Ayurvedic practitioners for correcting *Kushta, Indralupta, Vatarakta, Palitya, Dushta vrana, Arumsika* etc. Modern scientific world needs explanation and logic behind the mode of action of *Gandhaka rasayana* with respective to each particular disease. This review is an attempt to explain multiple mode of action of *Gandhaka rasayana* in various diseases on analysing properties of ingredients. Analysis of mode of action gives deep insight about use of formulation with a better understanding.

#### **INTRODUCTION**

Gandhaka rasayana is a Kharaliya rasayana and common herbo-mineral preparation prepared by Shuddha gandhaka (Sulphur) Bhavana done with 12 herbal drugs in a serial manner for eight times each. Gandhaka Rasayana stands apart as a remedy which is extensively used in skin diseases. Other than its role as a Rasayana (rejuvenating) drug, it is widely used in broad spectrum to treat various clinical conditions such as Kushta, Vatarakta, Prameha, Dushtavrana, Grahani, Indralupta, Kshudra roga etc. Gandhaka rasayana consists of Shudha gandhaka (purified sulphur) which is levigated with Godugdha (cow's milk), Chaturjata, Triphala, Guduchi, Shunti, Bringaraja and Ardraka (ginger) respectively for 8 times each. The Bhavana (levigation) process which is a Samskara



augments the properties of *Gandhaka*, the phytoconstituents and trace elements incorporated from the *Bhavana dravyas* widens the therapeutic index of *Gandhaka rasayana*.[1]

Different formulations of *Gandhaka rasayana* preparations in various texts are mentioned under the same nomenclature. Although *Gandhaka rasayana* has not been mentioned in *Bruhatrayee* but external use of *Gandhaka* as *Lepa* or *Avachurnana* along with other *Kushtaghna dravyas* have been mentioned in *Kushta chikitsa*. Acharya Charaka in *Kushta chikitsa* describes use of *Gandhaka choorna* with *Amalaka swarasa* or *Jati swarasa*, which can ward of 17 types of *Kushta* which is best *Kushtaghna yoga*.<sup>[2]</sup>

Table 1: Showing various references of Gandhaka rasayana

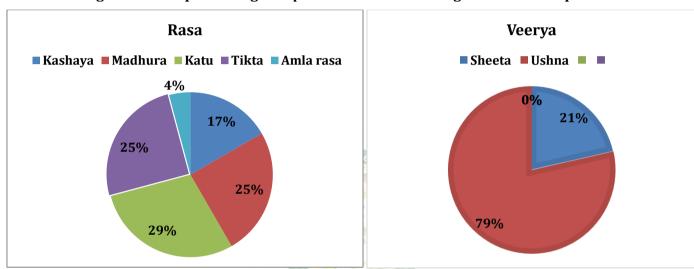
S.no	Textual reference	Rogadhikara	Various <i>Dravyas</i> used for <i>Bhavana</i> as per text
1	Bruhat nighantu ratnakara, Vaidya <sup>[3]</sup>	Shoola	Triphala, Gandhaka choorna and Loha Bhasma are mixed. No Bhavana is done
2	Ayurveda prakasha, <sup>[4]</sup> Bruhat Nighantu ratnakara (Vatavyadi), Bruhath yog taragni and yogaratnakara (Rasayana) Vai.Ra (Vajikaran)	Vatavyadhi, Vajikarana rasayana	Godugdha, Chaturjataka, Guduchi, Triphala, Shunti, Bhrungaraj, Ardraka. The same ingredients are used in all texts. Eight Bhavanas of each Dravya are given to Shoditha gandhaka
3	Brihatyog tarangani <sup>[5]</sup>	-	Ajaksheera, Ikshu swarasa, Guduchi swarasa, Madhu, Gokshura, Varahikhanda, Yastimadhu, Kushta, Bhrungaraj, Tulasi bhavana. Bhavana is give 10 days each. Choorna such as Pippali, Pippalimoola, Lavanga, Nagakesar, Triphala, Kamalabheeja are added
4	Vangasena <sup>[6]</sup>	Rasayana	Krushnabhrak and Maricha are added and then the mixture is mixed with Tila taila this paste is applied on a cloth which is lit and the resulting liquid is collected in the bottle
5	Vangasen <sup>[7]</sup>	Rasayana	Shuddha gandaka mixed with Tikshna loha and Ghruta kumari bhavana for 21 days by Suryapak vidhi

Table 2: Showing Rasapanchaka of Ingredients used in Gandhaka Rasayana

S.no	Ingredient	Rasa	Guna	Veerya	Vipaka	Doshaghnata	Karya
1	Gandhaka <sup>[8]</sup>	Madhura (R.R.S) Katu, Tikta (A.P)	Manna jonal Je	Ushna	Katu	-	Amanashaka, Vishahara, Krumighna, Shodaka, Janthujith
2	Sarkara <sup>[9]</sup>	Madhura	Snigdha, Guru	Sheeta	Madhura	Vatapittaghna	Dahanashaka
	Bhavana						
1	Godugdha <sup>[10]</sup>	Madhura	Snigdha, Guru	Sheeta	Madhura	Vatapittaghna	Ojovardhaka
2	Dalchini <sup>[11]</sup>	Katu, Tikta, Madhura	Laghu, Ruksha, Teekshna	Ushna	Katu	Kaphavataghna	Deepana, Pachana, Vataanulomana
3	<i>Ela</i> <sup>[12]</sup>	Katu, Tikta	Laghu, Ruksha	Ushna	Katu	Tridoshagna	Rochaka, Deepana
4	Tvakpatra <sup>[13]</sup>	Katu, Tikta, Madhura	Laghu, Ruksha, Teekshna	Ushna	Katu	Kaphavataghna	Deepana, Pachana, Vatanulomana
5	Nagakesar <sup>[14]</sup>	Kashaya	Laghu, Ruksha	Ushna	Katu	Kaphapittaghna	Vishaghna
6	Guduchi <sup>[15]</sup>	Tikta, Kashaya	Laghu, Snigdha	Ushna	Madhura	Tridosha shamaka	Rasayana, Dahaghna
7	Haritaki <sup>[16]</sup>	Kashaya pradana	Laghu, Ruksha	Ushna	Madhura	Tridoshagna	Deepana, Pachana, Anulomana

8	Vibhitakai <sup>[17]</sup>	Kashaya, Madhura	Laghu, Ruksha	Ushna	Madhura	Kaphavataghna	Bhedana, Keshya, Chakshushya
9	Amalaki <sup>[18]</sup>	Amla Pradhana	Laghu, Ruksha	Sheeta	Madhura	Tridoshaghna	Rochaka, Sara, Chakshushya
10	Shunti [19]	Katu	Laghu, Snigdha	Ushna	Madhura	Vatakaphagna	Grahi, Vrushya
11	Ardraka <sup>[20]</sup>	Katu	Laghu, Snigdha	Ushna	Madhura	Vatakaphagna	Deepana, Amapachana, Vrushya
12	Bhrungaraj <sup>[21]</sup>	Tikta, Katu	Ruksha	Ushna	Katu	Kaphavataghna	Vishaghna, Rasayana, Balya, Chakshushya

Fig - 1 and 2 representing Rasapanchaka of overall drugs and their composition



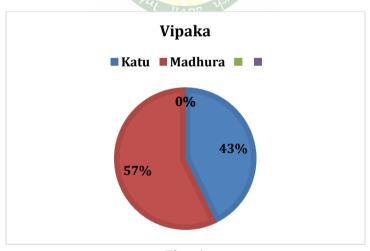
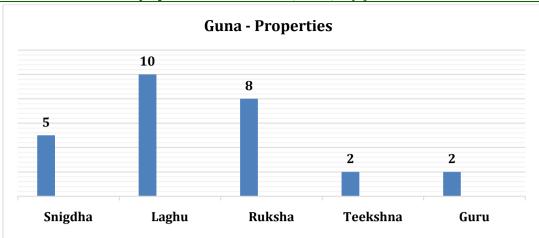


Fig - 1



**Fig - 2** 

Among the 14 ingredients 5 drugs possess *Snigdha guna*, 10 drugs possess *Laghu guna*, 8 drugs possess *Ruksha guna*, 2 drugs possess *Teekshna guna*, 2 drugs possess *Guru guna*.

**Analysis of** *Rasapanchaka*: After reviewing the table of contents, it is possible to make some inference about the *Kalpa*.

Rasa - Katu, Kashaya rasa pradhana

Guna - Laghu, Aruksha (neither too Ruksha nor too Snigdha)

Veerya - Ushna

Pitta

Vipaka - Madhura

Doshaghnata - Tridoshaghna

be consumed for six months.[22]

Rogamarga - Specifically effective on Bahya m<mark>ar</mark>ga. Dhatu mala - Rasa, Rakta, Meda, Mamsa, Lasika, <mark>Mala</mark>,

Phalashruti of Gandhaka rasayana: Intake of Gandhaka rasayana in one Karsha matra increases veerya (potency). Nourishes and strengthens the body and gastric fire (Jataragni). When consumed for two months, it destroys Kushta, Kandu and severe Visha dosha. It helps to cure Atisara, Raktasrava along with Grahanishoola. Gandhaka rasayana is Santatidayak and imparts black colour to the hair for this purpose it is to

Gandhaka rasayana helps to cure all ailments, helps to cure those on death and imparts long life. When consumed by mixing Parada Bhasma (Rasasindoor) and Swarna Bhasma it imparts luster, radiance and beauty similar that of a deity. [23] Enhances Veerya, strengthens body as well as Agni, useful in 80 types of Vatavyadhi, Kushta, Prameha, Dusta udar rog, Sannipata as well as Doshaja jwara, Rajayakshma, Prameha, Pandu, Kshaya, Shwasa and Arshas are rapidly relieved by this Rasayana kalpa. Gandhaka rasayaan is a Veeryavruddhikara kalpa, it helps in enhancing Sarvadehika sukra it makes the body strong and gives Rasayana effect too. Some Vaidyas believes that as Sthanika shukra works for procreation, Sarvadehika shukra works for producing

new cells and imparting them energy. *Gandhaka* rasayana by acting on *Sarvadehika shukra* produces excellent healthy cells which also helps in wound healing (*Vrana ropana*).<sup>[24]</sup> According to *Rasatarangini* bhavita gandhaka along with *Sita* (sugar) taken in a dose of one *Masha Pramana* for one month will cure *Prameha, Kushtaroga, Dhatukshayajanya koshtaroga, Sula*. <sup>[25]</sup>

# Probable mode of action of *Gandhaka rasayana* in various diseases

*Kushta*: It is widely used in treating skin disease. Kushta is usually Tridoshaja and difficult to treat it becomes chronic its Sthana samshraya (movement of Doshas) depends on later Dhatus as in Jeerna jwara. In order to do Sampraptibhagna sharira sodhana is repeated many times. In Samanya samprapti of Kushta there is Prakopa of Tridosharasa, Rakta, Mamsa, and Lasika.[26] The properties of Suddha gandhaka are it hampers the ill effects of Hridroga, Kushta, Jatra, Mrithu, increase Agni and is Veeryavrudhi.[27] Through perspective of Kushta nidana and Samprapti, Shoditha gandhaka is Agnideepaka, Amapachaka, Amanashaka, Vishahara, Soshaka, Kruminashaka. All properties essential to treat Kushta are present in Shuddha gandhaka. These properties are further augmented by other ingredients of Gandhaka rasayana.[28] Gandhaka rasayana relieves discolouration of skin, helps to reestablish natural colour, alleviates Dooshita kapha and Visha[29]. Along with Chaturjataka other Kushtaghna and Vishaghna Dravya is Bhrungraj. Nagakeshar and Dalchini both have Laghu and Ruksha guna helps to do Pachana of Raktagna sosha. Nagarakesar is best Vishaghna Dravya. Dalchini is Kandughna, Kushtaghna and act as Varnya. Bhrungraj has Rasayana action along with Vishagna, Krumighna properties.

By acting on the *Rasa* and *Rakta dhatwagni* it does *Pachana* of *Ama* and *Sodhana* of vitiated *Lasika* etc. It is much useful in *Pitta Pradhana kushta* like *Pama, Dadru, Charmadal, Shataru,* which have reddish discolouration, *Daha, Pooyayukta pitika, Pooyasrava* etc as prime symptoms especially when *Daha* is

present as a prominent symptom *Gandhaka rasayana* helps to pacify *Daha*. Inspite of having *Ushnaveerya* due to its *Madhura vipaka* and presence of *Dahaghna dravyas* like *Amalaka, Guduchi,* it acts as *Dahanashak. Gandhaka rasayana* not only helps to break *Samprapti* of *Kushta* but also strengthens and enhances *Dhatvagni.* It does *Raktaprasadana. Dravyas* in *Gandhaka rasayana* primarily have *Ruksha* and *Laghu guna, Ruksha guna* reduce *Kleda,* an important factor in *Kushta samprapti.* In chronic stages, long term use of *Gandhaka rasayana* in low doses act as *Rasayana* (rejuvenator) on skin etc and prevents relapse of disease.

Vatarakta: Prakopa of Vata dosha and Rakta dhatu dushti happens in Vatarakta due to Hetu. Such vitiated Vata when takes shelter of Dushta rakta then Vatarakta develops use of Vatashamaka and Raktaprasadaka medicines has to be used in order to treat Vatarakta. Gandhaka rasayana is an excellent Raktaprasadaka pacifies Pitta properties such as Teekshna etc acts as Dahagna and Vishagna. Eight Bhavanas are given to Gandhaka using Guduchi, which is Vyadhipratyanika in treating Vatarakta. It helps to break Samprapti of Vatarakta by doing Pachana of Dosha present in the Rakta. Being Rasayana it provides appropriate nourishment to Rakta dhatu. By purifying Rakta, it helps to fades off skin discolouration seen in Uttana vatarakta.

Mukhadooshika: Pitika which develop over face due to Kapha, Vata and Rakta dushti. If a person posses Pitta prakruti or there is Pitta vruddhi there can be burning sensation or become purulent. [30] To treat this Pittashamaka and Raktaprasadhana medicines are adopted. In such cases Gandhaka rasayana proves to be much useful along with Sarivadyasava, Chandanasava etc.

Indralupta and Palitya: Bhrajaka pitta in the Romakupa gets mixed with aggravated Vata which leads to hairfall, Rakta and Kapha obstructs the Romakupa in this region stops new hair growth. Here primarily there is Raktadushti, Gandhaka rasayaan has eight Bhavanas with Bhrungaraja is considered as a best Keshya dravya. Bhrungaraja helps Gandhak rasayan to work on scalp disorders. According to Bharatabhaishajya Ratnavali hair become dark black after three months of regular intake of Gandhaka rasayana. Hence it is much useful in Palitya which develops due to Pitta dominance.

Vatavyadhi: In Vatavyadhis which are Nirupastambhit or developed due to Dhatukshayajanya vataprakopa, Gandhaka rasayana can be used as a Rasayana along with other Vataghna treatments. If there is Daha, pain, burning sensation due to Kshoba of Vatavyadhis use of Gandhaka rasayana is beneficial. It is useful in Ardhita (facial palsy) and Pakshagata (paralysis) as it acts on nervous system and strengthen the Vatanadis (nerves).

In neuralgia there is inflammation, burning sensation and severe pain in affected areas *Gandhaka rasyana* is useful along with *Pittashamaka* and *Dahaghna* medicines due to its *Rasayana* (rejuvenatory) effect in such type of *Daha*.

Prameha: Kapha which has increased in quantity i.e., Bahu and having Drava guna is main Dosha in Prameha (diabetes) due to Drava guna there is raise in Kleda in body. Dhatu shaithilva is an important constituent in Samprapti (pathogenesis) of Prameha. Due to excess Kleda and Drava there is raise in frequency of urination. In Sthula and balawan patients Sodhana and Lekhana has to be done along with Kapha pacifying treatment in such cases Gandhaka rasayana does Rasayana effect and helps to reduce the Dhatu shaithilya. It increases Dhatubala (strength of body tissues) by improving the *Dhatwagni*, (digestive fire) it curtails unwanted Kleda and does Pachana of Ama kapha, Prameha patients develop Pitika, Vidradhi, skin diseases etc excessively increased Kleda makes it difficult to pacify such complications in such a state Gandhaka rasayana proves to be useful by its Raktaprasadan, Kledaghna and Jantughna action. It is useful in diabetic ulcers Shoditha gandhaka, Triphala present in Gandhaka rasayana does Kledaghna and Vrana ropana karma (wound healing).

*Upadamsha* and *Phiranga*: There is *Raktadushti* in these *Jantujanya* diseases. As *Phiranga* advances it does *Sthanasamshraya* in further *Dhatu*, symptoms associated with it affects *Dhatus* such as *Mamsa*, *Meda* etc start developing in *Samprapti*. In *Upadamsha sotha*, *Daha*, *Paka*, develops in *Medhra* region in such state *Rakta shuddhikara* treatment is essential which is done by ingredients present in *Gandhaka rasayana*.

Atisara, grahani and Arshas: Agnimandhya is the root cause of these three diseases. Strength of Jataragni is hampered. Gandhaka rasayana is useful in chronic stage of Atisara and when there are symptoms like Saama, Picchila-mala pravruti in Grahani.

In Arshas there is Dusti of Rasa, Rakta, Mamsa dhatu as well as Shaithilya of anal sphincters. When pitta is involves there is burning sensation and swelling in the perianal area. Gandhaka rasayana does purification of Rakta dhatu along with its Agnideepan and Amapachan activity. It does Pachan of Dushta sama kapha and helps to reduce its Picchila nature. Helps to heal ulcers developed in intestines. It helps in Arshas by doing Raktaprasadan and curing Sthanika mamsa dhatu shaithilya. Nagakesar present in it does Raktapachana and Stambhan, thus helps to treat Sravi arshas.

Kshudra roga - Arumshika: Develops on root of scalp due to Kapha, Rakta and Krumi, Kledayukta pitikas with multiple openings are formed on scalp with symptoms such as Srava, Kandu, Dahavrana etc.[31] Gandhaka rasayana is useful due to Raktaprasadana and Krimighna dravya like Triphala, Guduchi, Dalchini,

Bhrungraj etc. It has good Jantughna action. Being Kledaghana, it reduces Kleda present in the Rakta, aids in wound healing. It is useful with other Raktashodaka medicines like Mahamanjishtadi kashaya, Khadirarista etc.

Dushtavrana/Vranashotha: Usually treatment of Vrana is done by Shasti upakrama with external and internal treatments like Krimighna, Vishagna treatment is given. Gandhaka rasayana is very useful in chronic Vrana, Dushta vrana, Pooyayukta vrana. Triphala in it works as best Vranaropaka. Most ingredients are having Laghu and Ruksha guna, which reduces Kleda in the Vrana. It improves Jataragni (digestive fire).

Gandhaka by itself is Jatughna destroys Sukshma krimi, Jantu etc from the Vrana, reduces weakness developed due to Vrana. This Kalpa acts as best Kushtaghna, Vishagna, Rasayana, Kledghna, helps in faster wound healing. Also used in Nadivranas with pus and Dhushita rakta and in cases of post surgical wound healing in Arsha.

Suppurative diseases: Vranas become more purulent due to Pitta prakopa in infections where there is rise in Ushna, Teekshna guna of Pitta, Rakta becomes Vidahi which generates pus in the Vrana, Pitika etc. It is useful in Pooyadanta, Pootinasa, Pootikarna, Pooyayuktamutra etc. Gandhaka rasayaan in these conditions are useful as it posses Pittashamaka, Raktaprasadana, Krumighna properties. It helps in Pooyavrukka by doing Raktaprasadana thus reduces Dhatupaka and lowering the possibility by functional deterioration of the kidneys.

## DISCUSSION

All the properties of Gandhaka are augmented by repeated Bhavana process using various herbal drugs. The phytochemical constituents along with trace elements enhance the properties of Gandhaka and widens its therapeutic application. Gandhaka being one of the most important ingredients in the formulation has Laghu, Ruksha guna helps in reducing the diseases associated with Kleda, does Raktaprasadana which pacifies Pitta dushti and act as Vishaghna. Among the other ingredients Amalaka, Guduchi act as Dahanashaka, Triphala does Kledaghna and Vranaropaka action. Nagakesara Raktapachana and Sthambana which will be useful in diseases associated with Daha and Srava.

Most of the *Bhavana dravyas* have *Madhura vipaka*, rasa usually works on specific organs but *Vipaka* shows effect all over the body. Thus these drugs work on *Dosha*, *Dhatu* and *Mala*. *Vishaghna*, *Kushtaghna* and *Krumighna* activity of *Gandhaka* are augmented by *Nagakesara*, *Bhrungaraja*, *Dalchini*, *Guduchi*. This *Kalpa* act as best *Rasayana*, *Triphala*, *Guduchi*, *Bhrungaraj* helps to enhance the *Rasayana* action of *Gandhaka*. *Gandhaka* rasayana does

Agnideepana, Pachana of Dushta kapha which reduce the Kledaghna lakshana in a disease due to its Ruksha guna.

#### **CONCLUSION**

Gandhaka rasayana pays a better way in reduction of symptoms in diseases associated with Pitta, Kapha and Rakta dusti. Gandhaka exhibits excellent Rasayana qualities which does regeneration activity in the body and is useful in chronic diseases. Does Raktaprasadana, Kledaghna, Krimihara, Vishaghna, Kushtaghna, Amapachana, Agnideepana activity which helps in overall maintenance of health.

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