CHAPTER-21

DHANWANTARAM GULIKA – A CRITICAL ANALYSIS ON PHARMACOLOGICAL PROPERTIES TO EXPLORE THE THERAPEUTIC ACTION

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ABSTRACT

The Ayurvedic pharmaceutics is comprised of primary preparations known as panchavidha kashaya kalpana and secondary preparations derived out of them. Vati or Gulika is one among the secondary preparations explained by Acharya Sharngadhara. Dhanwantaram Gulika is a formulation explained in Arogyakalpadruma and Sahasrayoga which is widely prescribed by Ayurvedic physicians to cure the diseases arising from vatavaigunya and srotorodha. The designated rasapanchaka analysis performed in this yoga revealed that the formulation is predominantly showing rooksha guna, katuvipaka, ushnavirya and kaphavata samana. The therapeutic action of Dhanwantaram Gulika may be substantiated with those outcomes acquired from its rasapanchaka analysis.

***Keywords**: Dhanwantaram Gulika, Vati kalpana, rasa, guna, virya, vipaka*

1. INTRODUCTION

The Ayurvedic pharmaceutics includes primary preparations which consists of *panchavidhakashaya kalpana (swarasa, kalka, kwatha, hima and phanta)*[1] and secondary preparations derived from these galenicals. *Vati Kalpana* (pills) is one among the secondary preparations which is having advantages like enhanced shelf-life, ease in dosing etc. *Dhanwantharam Gulika* is an ayurvedic pill formulation mainly used for diseases of the respiratory system, digestive ailment, and heart diseases[2]. It is helpful in diseases of *pranavaha srotodushti* especially in cases of bronchitis, cough, asthma, breathlessness (dyspnoea), heart diseases, hiccup, anorexia, nausea & vomiting and excessive salivation. It is also useful in prevention of health problems occurring in women during pregnancy and puerperium (period following the childbirth). It helps in quick recovery of the uterus to pre-pregnancy size.

2. AIMS AND OBJECTIVES

In this paper, an effort is made to analyse the yoga of *Dhanwantaram gulika* by considering the pharmacological properties of ingredients with special reference to their *rasa, guna, virya, vipaka*, and *doshakarma* to explore its mode of action.

3. MATERIALS AND METHOD

Data on *Dhanwantaram Gulika* were collected from all ancient literatures of Ayurveda and the lexicons of Medicinal plants (*Nighantus*), recent literature, journals, and information gathered from the internet.

4. LITERATURE REVIEW

The *Vatikalpana* has two categorisations depending on the method of preparation employed[3]. It can be either prepared by subjecting to fire or without fire ie simply by *bhavana* (levigation). *Dhanwantaram* pills are prepared by following *niragni* method. Here the ingredients are collected, powdered and levigated by adding the prescribed liquid medium. Then pills are rolled in the size of 1 *masha* (750-1000mg) and dried in shade. It is administered along with either the decoction of *Panasachada* (leaf stalk of jackfruit), *Bhunimb*a or *Jeeraka.*

The ingredients according to Sahasrayoga are as follows:

Table -1: Ingredients and bhavana dravya

Ingredients	**Quantity**
1.Elettaria cardamomum – Elaichi (Cardamom)	1 Part
2.Zingiber officinale – Sonth (dried ginger)	1 Part
3.Terminalia chebula – Haritaki	1 Part
4.Myristica fragrans – Jaiphal (Nutmeg)	1 Part
5.Solanum indicum – Brihati (Indian Nightshade)	1 Part
6.Swertia chirata – Chirayata (Kiratatikta)	1 Part
7.Cuminum cyminum – Jeera (Cumin Seeds)	1 Part
8.Syzygium aromaticum – Laung (Clove)	1 Part
9.Piper cubeba – Kababchini (Kankola)	1 Part
10.Andrographis paniculata – Kalmegh (Bhunimba or Indian Echinacea or Nilavembu)	1 Part
11.Elaeocarpus ganitrus – Rudraksha	1 Part
12.Cedrus deodara – Devdaru (Deodar Cedar or Himalayan Cedar)	1 Part
13.Cinnamomum camphora – Kapur or Kapoor (Plant Camphor)	1 Part
14.*Karigutha*	1 Part
15.*Gandhamarjaravirya*	1 Part
16.Cuminum cyminum – Jeera (Cumin Seeds) Decoction	Q.S.
17.Chandan kwath	Q.S.

Among the ingredients, two of them are derived from animal sources while others are herbal origin. The *karigutha* is considered as the meconium of newly born elephant known as *kandivenna* in Malayalam. *Gandhamarjara virya* is the seminal secretion of Civet cat. These two ingredients are skipped by many of the manufacturers due to non-availability.

5. DISCUSSION

5.1 Pharmacological Consideration

Ayurveda relies on medicines obtained from natural sources like plants, minerals, and ores. In Ayurvedic pharmacology, *rasa, guna, virya, vipaka*, and *prabhava*[4] are five terms that describe the properties of drugs. These terms are also known as *rasapanchaka*. The therapeutic action of a drug is determined by its *rasapanchaka.*

- **Rasa:** Taste and structural arrangement of drugs.
- **Guna:** Attributes or basic nature of drugs.
- **Virya:** Drug action or potency.
- **Vipaka:** Biotransformation or metabolite of drug.
- **Prabhava:** Specific action or post digestion effect of the drug

The Ayurvedic science of medicine, *Dravyaguṇa*, uses the taste of a substance as the primary tool to assess its pharmacological behavior. In Ayurveda, rasa is the taste of a drug. Rasa is the taste associated with secretions in the mouth. *Rasa* is perceived through the contact of a drug with the gustatory sense organ. The six rasas are: *Madhura* (sweet), *Amla* (sour), *Lavana* (salty), *Katu* (pungent), *Tikta* (bitter), *Kashaya* (astringent). Each *rasa* is made up of two of the five elements. *Panchamahabhuta* are the five elements that make up the human body and all drugs. The five elements are: *Akash* (ether), *Vayu* (air), *Agni* (fire), *Jal* (water), *Bhumi* (earth). For example, *kashaya rasa* (astringent taste) is made up of *vayu* (air) and *pṛithvī* (earth). Ayurveda recommends including all six rasas in every meal. It interacts directly with the vitiated doshas inside the body. *Rasa* is used to identify the predominance of *mahabhuta* (molecules) in a substance, and to predict its activity when administered.

Guna is a physical property that reacts with the drug but remains inactive. *Guna* is important for understanding herbs and getting the most benefit from them. *Gurvadi gunas* are 20 qualities of substances in Ayurveda. They are made up of 10 pairs of opposite *gunas*. For example, *guru-laghu* (heavy-light), *shita-ushna* (cold-hot), and

snigdha-ruksha (unctuous-dry) etc. *Gurvadi gunas* are important for treatment purposes. They are responsible for the *karma* of the *dravya*. They are inferred through their action.

Veerya is the effect of the drug on *agni* (digestive fire). This effect can be *ushna* (heating) or *sheeta* (cooling).

Vipaka is the outcome of the biotransformation of a drug's taste by digestive enzymes According to Ayurveda, the post-digestion effect of a drug (*vipaka*) is directly dependent on the drug's taste (*rasa*). The three types of vipaka are *madhura* (sweet), *amla* (sour), and *katu* (pungent).

In Ayurveda, *prabhava* is a property that causes a specific action of a drug. *Prabhava* is characterized by actions that cannot be explained by the pharmacological actions of the drug's constituents. *Prabhava* is important for clinical and therapeutic effects. *Prabhava* is different from *rasa, guna, virya*, and *vipaka*. *Prabhava* produces actions that are different from and contrary to those attributed to the other four properties.

There are three types of prabhava:

- Dravya Prabhava: Drug action independent of the constituents
- Guna Prabhava: Drug action depending on the constituents
- Dravya-Guna Prabhava: Drug action depending on both the dravya and guna

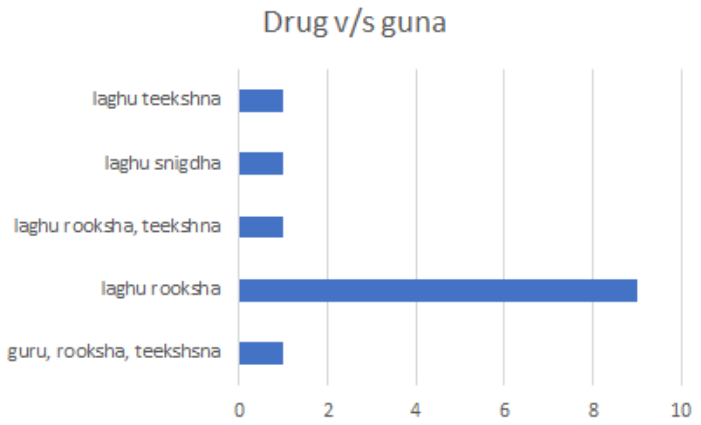
The therapeutic action of the formulations containing multiple ingredients are governed by the properties of its components. Hence to evaluate the rasapanchaka of every ingredient is necessary prior to analyse a formulation. In this analysis, *prabhava* is not considered as an entity to explore the therapeutic profile of *Dhanwantaram Gulika.*

The property analysis of *Dhanwantaram Gulika* is depicted in the following table and graphs;

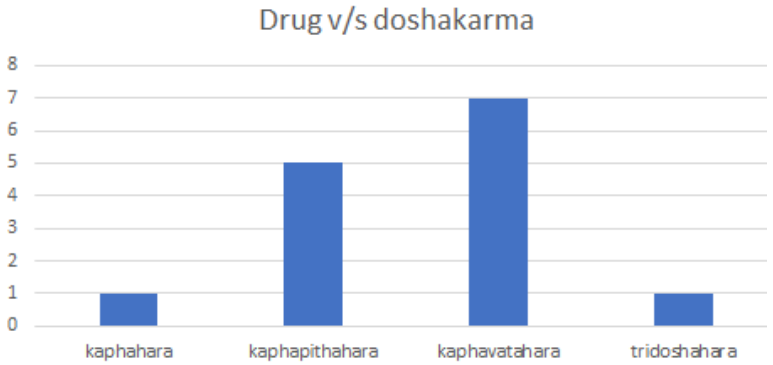
Table -2: Property Analysis of *Dhanwantaram Gulika*

Name of the drug	Part used	Rasa	Guna	Virya	Vipaka	Doshakarmaa
Elettaria cardamomum	Seeds	katu, Madhura	laghu rooksha	Sheeta	Katu	kaphavatahara
Zingiber officinale	Rhizome	Katu	guru, rooksha, teekshsna	Ushna	madhura	kaphahara
Terminalia	fruit rind	pancharasa	laghu	Ushna	madhura	tridoshahara

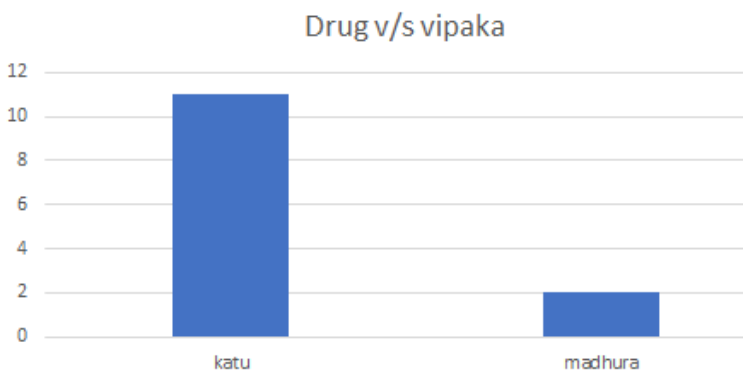
chebula		except lavana	rooksha			
Myristica fragrans	seed, seed coat	tikta, katu	laghu teekshna	Ushna	Katu	kaphavatahara
Solanum indicum	Root	katu,tikta	laghu rooksha	Ushna	Katu	kaphavatahara
Swertia chirata	whole plant	tikta	laghu rooksha	Sheeta	Katu	kaphapithahara
Cuminum cyminum	Seeds	Katu	laghu rooksha	Ushna	Katu	kaphavatahara
Syzygium aromaticum	Buds	tikta, katu	laghu snigdha	Sheeta	Katu	kaphapithahara
Piper cubeba	fruit	katu, tikta	laghu rooksha, teekshna	Ushna	Katu	kaphavatahara
Andrographis paniculata	whole plant	Tikta	laghu rooksha	Ushna	Katu	kaphapithahara
Elaeocarpus ganitrus	Beads	Amla		Ushna		kaphavatahara
Cedrus deodara	Heartwood	tikta, katu,Kashaya	laghu rooksha	Ushna	Katu	kaphavatahara
Cinnamomum camphora	Niryasa	tikta,katu Madhura	laghu rooksha	Sheeta	Katu	kaphapithahara
Karigutha						
Gandhamarjara virya						
Chandan kwath	Heartwood	tikta,madhura	laghu rooksha	Sheeta	Katu	kaphapithahara



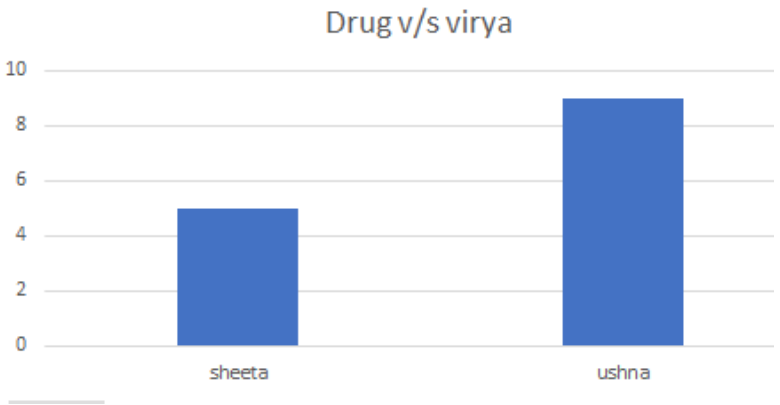
Graph-1: Representing the properties of the drugs



Graph-2: Representing doshakarma of the drugs



Graph-3: Representing Vipaka of the Drugs



Graph -4 Representing *veerya* of the drugs

The pharmacological analysis of the properties of the ingredients reveals that it is predominantly having *laghu* and *rooksha* guna. Most of the drugs are *vatakaphasamana, katu vipaka* and *ushnavirya* in nature. All these favours the action of the drug in *pranavahasrotas* (the channels associated with respiration) and *annavahasrotas* (the channels associated with digestion) to overcome the blockage by *kapha* and thereby bringing *vatanulomata.*

6. CONCLUSION

The detailed analysis of the pharmacological properties of individual ingredients of *Dhanwantaram Gulika* is conclusive of its therapeutic efficacy to cure the diseases arising out of *kapha* obstruction. It is suggestive of its wide range of therapeutic action in respiratory and digestive tract to bring the *anuloma gati* of *vayu*. The *anupana* (adjuvant/vehicle) recommended for consuming this drug is also adding its efficacy and enhancing the therapeutic property. The presence of camphor in this formulation is posing a toxicity risk on overdosing and in pregnant ladies. Otherwise, it is a safe drug for long-term use and yielding good results on judicious administration.

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