



## **Pharmaceutical and Analytical Study on Triphala Guggulu**

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### **ABSTRACT**

*Ayurveda is considered as the "science of life," because the ancient Indian system of health care focused views of man and his illness. India has an age-old heritage of traditional herbal medicine. Herbal drugs are being preferred to synthetic antibiotics. Triphala-guggulu vati is official in Ayurvedic Formulary of India and is prescribed for the treatment of hemorrhoids, fistula in ano, fissure etc. It is a polyherbal preparation containing five ingredients. In this research paper, an attempt has been made to develop standardization methods of Triphalaguggulu vati. All the formulations were standardized on the basis of organoleptic, physical constants, pharmaceutical properties by adopting methods as per Indian Pharmacopeial parameters. Required materials for Triphala guggulu preparations were collected from Pharmacy. Triphala guggulu prepared as per reference mentioned in sharangdhara Samhita, in practical pharmacy of rasashastra & bhaishajya Kalpana dept further subjected to quality analysis in analytical lab of Dept Rasashastra & Bhaishajya Kalpana BLDEA's AVS Ayurveda Mahavidyalaya Vijayapur. Organoleptic characters colour was Black, faint ingredient Odour, Bitter in Taste, smooth in touch and soft powder form after bhavana before to prepare tablets. After preparation of tablets subjected to Physical constants & Pharmaceutical standards were tested. Results were in the normal limits.*

**Keywords:** Triphala guggulu, Pharmaceutical study, quality control tests

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### **INTRODUCTION:**

Ayurvedic medicines are one of the world's oldest medicinal systems and remains one of India's traditional health care systems.[1] Ayurvedic medicines are gaining popularity among patients for their better therapeutic efficacy. Due to globalization and increased awareness, the traditional medicine usage is increasing every year. With an increase in global demand for herbal medicine, it is now important to ensure consistency in quality of products from batch to batch. Though quality parameters are mentioned in the classics to check the quality but to convince and the with the modern pharmaceutical quality parameters there is a foremost need to validate Ayurvedic formulations with the use of sophisticated instrumental and analytical techniques explained in the context of herbal medicine to justify the quality of the products. Triphala Guggulu is one among the guggululalpna widely used in vranashodhana and vranaropana karma in practice, Triphalaguggulu indicated in bhagandara, gulma, shotha, arsha, vatarakta, kushta etc diseases which is described in sharangdhara samhita. [2] Triphala guggulu is reputed for treating inflammatory conditions.

The Guggul means "gunjo vyadhe gurdati rakshati,"[3] meaning to give relief from different diseases. Guggulu is sticky in nature hence proper shodhana and proper pharmaceutical procedure are to be followed during preparation. Traditional texts describe in detail about the manufacturing process for the same. However, in modern practice to fulfil market demand, an industrial approach for the traditional manufacturing process is warranted. Hence after preparation analytical tests of tablets are to be followed to rule out its pharmaceutical quality assessment.

Hence, there is a foremost need to validate Ayurvedic formulations with the help of sophisticated instrumental and analytical techniques explained in the context of herbal medicine to justify the quality of the products. In this regard a study on pharmaceutical & analytical study with the title "Pharmaceutical & analytical study of Triphalaguggulu" was carried out.

## MATERIAL AND METHODS

### Materials

#### A) Pharmaceutical study

Materials required for the preparation of Triphala guggulu according to sharangadhara samhita reference were collected from pharmacy of BLDEA's AVS Ayurveda Mahavidyalaya Vijayapur.[2]

#### B) Analytical study

Materials required for analytical study were carried out in analytical lab Dept of Rasashastra & Bhaishajya kalpana of BLDEA's AVS Ayurveda Mahavidyalaya Vijayapur.

### Methods

#### A) Pharmaceutical study: Triphala guggulu prepared as per method mentioned in sharangadhara Samhita Mahadyama khanda chapter no 7 sloka no 82.

**Table no1 : showing the ingredients & proportion of drugs of triphala guggulu**

S.No	Ingredients	Latin name	Part used	Proportion
1	Amalaki	<i>Embllica officinalis</i>	Fruit	1part
2	Haritaki	<i>Terminalia chebula</i>	Fruit	1part
3	Bibhitaki	<i>Terminalia bellirica</i>	Fruit	1part
4	Pippali	<i>Piper longum Linn.</i>	Fruit	1part
5	Shodhita Guggulu	<i>Commiphora mukul</i>	Resin	5part

#### Method:

- Initially Guggulu shodhana was carried out by using triphala kwath and fine powder of other ingredients were prepared. [4]
- The churnas of the drugs except shodhita guggulu mentioned in table no 2 above were mixed in khalwa yantra to obtain a homogeneous mixture.
- Meanwhile the mentioned quantity of shodhita guggulu was pounded well & mixture of remaining drugs was added.
- Now to these finaldrugs mixture triphala kwatha bhavana was given in a clean khalwa yantra.
- Later when drug mass attains desired consistency, 50% of final product used to prepare pills & remaining powdered to use in analytical studies.
- These pills and powder were later dried in a shade and stored in a suitable airtight plastic container as Triphala guggulu.

#### B) Analytical study

Final product was initially subjected to organoleptic characters analysis then physical constants [5]& pharmaceutical standard tests were tested [6]

Moisture content, specific gravity,  $p^H$ , ash value was tested and uniformity in size, weight, friability, hardness, dissolution, disintegration tested under pharmaceutical quality analysis tests.

## RESULTS AND DISCUSSION

In the classical preparations of herbal medicines with respect to tablets two methods have been mentioned. Tablets in which Guggulu is chief ingredient where shodhana of guggulu is carried out first and properly pounded shodhita guggulu to be used. Sticky nature of guggulu should not be negative point in these cases hence uniform mixture of all the ingredients along with the properly pounded guggulu. Though different methods are mentioned in purification of guggulu, while mixing the shodhita sample with the other ingredients uniform mixing is to be observed. To get its best therapeutical effects [1].

In the present study guggulu shodhana carried out afterwards pounded well to convert guggulu into small & smaller particles. It was not powdered completely because of its sticky nature. All ingredients were mixed and subjected to bhavan with triphala kwaha. Movements of peshani were free n easy later on found tough due to presence of guggulu as ingredient which is higher in quantity compared to other ingredients in the formulation. When content of khalwa yantra attained sticky pill mass consistency 50% of content used to prepare pills and remaining was dried & powdered to use in analytical studies [2].

Total 138 gms of each haaritaki, bibhitaki, Amalaki, Pippali, 690 gms of shodhita guggulu triphala kwatha used to prepare triphala guggulu. After completion of bhavana triphala guggulu 50% of total quantity in powder form & 50% in tablets form prepared. Both the final products were stored in airtight container & stored. During preparation of triphala guggulu usage of properly pounded shodhita guggulu & giving proper bhavan to the uniformly mixed ingredients place an important role. Proper pounding of guggulu reduces the stickiness property of guggulu and uniform mixture of all ingredients will give good therapeutical effect as well as maintains physical stability of tablet. By which guggulu tablets will pass all pharmaceutical standardization parameters [3].

$P^H$  was 6.1, Specific gravity was 1.003, Ash value 8% and moisture content was 2%. Results of Pharmaceutical analysis of Triphala guggulu i.e Uniformity in Size was 8.552mm, Uniformity in weight was 498 mg, friability was 0%, dissolution 75 min, disintegration 85 min, Hardness was 5 kg thus they were under normal limit [4].

**Table no 2 showing the ingredients & their quantity used to prepare triphala guggulu.**

S.No	Ingredients	Latin name	Part used	Proportion	Quantity In gms
1	Amalaki	<i>Emblica officinalis</i>	Fruit	1part	138
2	Haritaki	<i>Terminalia chebula</i>	Fruit	1part	138
3	Bibhitaki	<i>Terminalia bellirica</i>	Fruit	1part	138
4	Pippali	<i>Piper longum Linn.</i>	Fruit	1part	138
5	Shodhita Guggulu	<i>Commiphora mukul</i>	Resin	5part	690

**Table no 3 showing The orogenetic characters of Triphala guggulu.**

S.No	Ingredients	Latin name
1	Colour	Black
2	Odour	Faint
3	Touch	Soft
4	Taste	Bitter
5	Appearance	Amorphous Powder

**Table- 4. Showing Physico-Chemical Standards of Triphala Guggulu**

Sl.no	Physical Constants	Results
1	pH value	6.1 w/v
2	Specific gravity	1.003
3	Ash value	8%
4	Moisture content	2%

**Table- 5. Showing Pharmaceutical Standards Tests of Triphala Guggulu**

Sr.no	Pharmaceutical standards	Results
1	Uniformity of size	8.552mm
2	Uniformity of weight	498 mg
3	Hardness	5 kg
4	Friability	0 %
5	Disintegration	70 min
6	Dissolution	80 min

## CONCLUSION

In the present study triphala guggulu was prepared by using the shodhita guggulu. Which was carried out by using the triphala kwatha. Thus, shodhita guggulu was pounded well and converted to as much as smaller particles. Uniform mixing up of other ingredients with shodhita guggulu too carried out properly before bhavana procedure and triphala guggulu tablets were prepared were subjected to quality analysis parameters. Results were in the normal limits.

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