

**PHYTOCHEMICAL ANALYSIS OF SIMHANAD GUGGULU PILL**Saroj Kumar Debnath<sup>1</sup>, Sudhaben N Vyas<sup>2</sup>

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**ABSTRACT**

Globally now recognizes that medicinal plants play a major role for providing more safe health benefits to human beings. It is a major challenge for quality control of medicinal plant based drugs because of its complex composition. Most of the Ayurvedic drugs are plant based drugs. Phytochemical analysis is the most important part for standardization of the medicinal plant base drugs. One most important Ayurvedic drug i.e. *Simhanad Guggulu* pill had been selected from Ayurvedic famous book named *Bhaishajya Ratnavali* for the Phytochemical analysis. It is mainly and commonly used in the treatment of disease *Amavata* (Rheumatoid arthritis). The Phytochemical study revealed that reducing sugars, tannin, phenolic compounds, saponin glycosides, and gum were present in the sample of *Simhanada Guggulu* pill.

**Keywords:** Phytochemical, *Simhanad Guggulu* pill.

**INTRODUCTION**

The gradual increased demand for plant based drugs and their eventual commercialization has given a more concentration on their status. Globally now recognizes that medicinal plants play a major role for providing more safe health benefits to human beings. Most of the Ayurvedic drugs are plant based drugs. Inadequacy of quality control is the most important responsible factor for global low acceptance of Indian plant based drugs. The complex composition of medicinal plant based drugs is a major challenge for quality control. Recently Analytical study is the most important way for standardization of the medicinal plant based drugs. Phytochemical study and Phytochemical study are two parts of Analytical study. Analytical study draws a major attention to

the different research scholars for research purpose. So many plants based drugs are described in Ayurvedic texts in context of treatment purpose of different diseases. One most important Ayurvedic drugs i.e. *Simhanad Guggulu* pill had been selected from Ayurvedic book for the Phytochemical analysis.

**Objectives:** I) To analysis the Phytochemical data of the *Simhanad Guggulu* pill.

**MATERIALS AND METHODS**

*Simhanad Guggulu* pill is a commonly used Ayurvedic medicine. It is mainly and commonly used by the Ayurvedic physician in the treatment of disease *Amavata* (Rheumatoid arthritis). *Amavata* disease is more similar to Rheumatoid arthritis according to its clinical manifestations and pathogenesis

<sup>1, 2</sup>. *Simhanad Guggulu* pill is mentioned in *slokas* (Information in Samskrit language) no. 190 to 195 of 29<sup>th</sup> chapter of *Bhaishajya Ratnavali* (Ayurvedic book) <sup>3</sup>. *Simhanad Guggulu* pill was prepared in the Pharmacy of Institute for Post Graduate Teaching and Research in Ayurveda, Gujarat Ayurvedic University, Jamnagar and Phytochemical study of this drug (i.e. *Simhanad Guggulu* pill) had been done in the Pharmaceutical laboratory of Institute for Post Graduate Teaching and Research in Ayurveda, Gujarat Ayurvedic University, and Jamnagar. Reducing sugars, Proteins, Tannin, Phenolic

compounds, Flavonoids, Cardiac glycosides, Saponin glycosides, Steroid, Gum, Mucilage, Non-reducing polysaccharides (Starch), Alkaloids of *Simhanad Guggulu* pill had been observed in Phytochemical study <sup>4</sup>. *Simhanad Guggulu* pill is a herbo-mineral Ayurvedic drugs and six ingredients are used in it <sup>5, 6</sup>. Name of the ingredients (Ayurvedic name and Scientific or Botanical name), used part of the ingredients and quantity of used part of the ingredients into the one pill are shown in the table-1.

**Table-1: Ingredients list of *Simhanad Guggulu* pill**

| S.No. | Ingredients (Ayurvedic name) | Scientific or Botanical name                | Used part          | Quantity (part) |
|-------|------------------------------|---|--------------------|-----------------|
| 1.    | <i>Haritaki</i>              | <i>Terminalia chebula</i> Retz.             | Dried mature Fruit | 1               |
| 2.    | <i>Amalaki</i>               | <i>Embllica officinalis</i> Gaertn.         | Dried mature Fruit | 1               |
| 3.    | <i>Bibhitaka</i>             | <i>Terminalia bellirica</i> Roxb.           | Dried mature Fruit | 1               |
| 4.    | <i>Guggulu</i> (Shodhita)    | <i>Commiphora wightii</i> (Arnott) Bhandari | Gum exudates       | 1               |
| 5.    | <i>Gandhak</i> (Shodhita)    | Sulphar                                     | Mineral            | 1               |
| 6.    | <i>Eranda taila</i>          | <i>Ricinus communis</i> Linn.               | Seed oil           | 4               |

## DISCUSSION

Results of Phytochemical analysis of *Simhanad Guggulu* pill is shown in the table-2.

**Table 2: Data of Phytochemical parameters (Quantitative test) of *Simhanad Guggulu* pill**

| Sl. No. | Components         | Tests                            | Results  |
|---------|--------------------|----------------------------------|----------|
| 1.      | Reducing sugars    | Fehling's test                   | Positive |
| 2.      | Proteins           | Biuret test                      | Negative |
| 3.      | Tannin             | With 5% ferric chloride solution | Positive |
| 4.      | Phenolic compounds | With Lead acetated solution      | Positive |
| 5.      | Flavonoids         | Shinoda test                     | Negative |
| 6.      | Cardiac glycosides | Keller-Killiani test             | Negative |
| 7.      | Saponin glycosides | Foam test                        | Positive |
| 8.      | Steroid            | Salkowski reaction               | Negative |
| 9.      | Gum                | Hydrolysis test with dilute      | Positive |

|     |                                       | HCl                |          |
|-----|---------------------------------------|--------------------|----------|
| 10. | Mucilage                              | With ruthenium red | Negative |
| 11. | Non-reducing polysaccharides (Starch) | Iodine-test        | Negative |
| 12. | Alkaloids                             | Mayer's test       | Negative |

The data of the above table-2 shows that Reducing sugars, Tannin, Phenolic compounds, Saponin glycosides, Gum were present in the sample of *Simhanada Guggulu* pill but Proteins, Flavonoids, Cardiac glycosides, Steroid, Mucilage, Non-reducing polysaccharides (Starch), Alkaloids were not present in the sample of *Simhanada Guggulu* pill.

### CONCLUSION

It can be concluded on the basis of this Phytochemical analysis of sample of *Simhanada Guggulu* pill that reducing sugars, tannin, phenolic compounds, saponin glycosides, and gum were present in the sample of *Simhanada Guggulu* pill but more research work is necessary on this subject for more information and more accuracy.

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