

## COMPARATIVE PHYTOCHEMICAL STUDY ON ALAMBUSHADI CHURNA TABLET AND SIMHANAD GUGGULU PILL

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### ABSTRACT

It is now globally accepted that medicinal plants play a major role for providing health benefits more safely to human beings. The complex composition of medicinal plant based drugs has a major challenge for quality control. Maximum Ayurvedic drugs are plant based drugs. Phytochemical analysis is the most important part for standardization of the medicinal plant based drugs. Two most important Ayurvedic drugs i.e. *Alambushadi Churna* tablet and *Simhanad Guggulu* pill had been selected from Ayurvedic famous books named *Bhava Prakasha* and *Bhaishajya Ratnavali* respectively for comparative Phytochemical study. These two Ayurvedic drugs are mainly and commonly used in the treatment of disease *Amavata* (Rheumatoid arthritis). Drugs preparing and Phytochemical study both had been done in the Institute for Post Graduate Teaching and Research in Ayurveda, Gujarata Ayurved University, Jamnagar. This comparative Phytochemical study revealed that reducing sugars, tannin, phenolic compounds, saponin glycosides, and gum were present in the sample of both *Alambushadi Churna* tablet and *Simhanad Guggulu* pill. Flavonoid was present only in the sample of *Alambushadi Churna* tablet but not in the sample of *Simhanad Guggulu* pill.

**Keywords:** Phytochemical, *Alambushadi Churna* tablet, *Simhanad Guggulu* pill.

### INTRODUCTION

The increased demand for plant based drugs and their eventual commercialization has given a more concentration on their status. Now it is being globally accepted that medicinal plants play a major role in providing more safe health benefits to human beings. Maximum Ayurvedic medicines are plant based drugs. But global acceptances of Indian plant based drugs are still low and most probably inadequacy of quality control is the most important responsible factor for this. The complex composition of medicinal plant based drugs has a

major challenge for quality control. Presently Phytochemical study is the most important way for standardization of the medicinal plant based drugs. Presently, different research scholars are very much interested for Phytochemical study on Ayurvedic drugs for research purpose. In Ayurvedic texts so many plants based drugs are described in context of treatment for different diseases. Two important Ayurvedic drugs i.e. *Alambusadi Churna* tablet and *Simhanad Guggulu* pill had been selected from Ayur-

vedic books for comparative Phytochemical study.

### Aims and Objectives:

Comparative analysis of the Phytochemical data (qualitative) of *Alambusadi Churna* tablet and *Simhanad Guggulu* pill for better standardization of these two drugs and also for better differentiation between these two drugs.

### MATERIALS AND METHODS

*Alambusadi Churna* tablet and *Simhanad Guggulu* pill both Ayurvedic drugs are mainly and commonly used in the treatment of disease *Amavata* (Rheumatoid arthritis). According to clinical manifestations and pathogenesis *Amavata* disease is more simulated to Rheumatoid arthritis<sup>1, 2</sup>. *Alambusadi churna* is mentioned in *slokas* (Information in Sanskrit language) no. 69 to 70 of 26<sup>th</sup> chapter of *Bhava Prakasha* (Ayurvedic book)<sup>3</sup> and *Simhanad Guggulu* is mentioned in *slokas* no. 190 to 195 of 29<sup>th</sup> chapter of *Bhaishajya Ratnavali* (Ayurvedic book)<sup>4</sup>. These two Ayurvedic drugs were prepared in the Pharmacy of Institute for Post Graduate Teaching and Research in Ayurveda, Gujarat Ayurved University, Jamnagar. Phytochemical analysis of these

two Ayurvedic drugs (i.e. *Alambusadi Churna* tablet and *Simhanad Guggulu* pill) had been done in the Pharmaceutical laboratory of Institute for Post Graduate Teaching and Research in Ayurveda, Gujarat Ayurved University, Jamnagar. Reducing sugars, Proteins, Tannin, Phenolic compounds, Flavonoids, Cardiac glycosides, Saponin glycosides, Steroid, Gum, Mucilage, Non-reducing polysaccharides (Starch), Alkaloids of these both Ayurvedic drugs had been observed in Phytochemical study<sup>5,6,7</sup>. *Alambushadi churna* tablet is a poly herbal Ayurvedic drug and thirteen Ayurvedic medicinal plants are used in it as ingredients and *Simhanad Guggulu* pill is a herbo-mineral Ayurvedic drug and six ingredients are used in it<sup>8,9</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 *Alambushadi churna* tablet and *Simhanad Guggulu* pill are shown in the table-1 and table-2 respectively.

**Table-1: Ingredients list of Alambushadi Churna tablet (500 mg tablet)**

S. No.	Ingredients (Ayurvedic name)	Botanical Name	Used part	Quantity (part)
1.	<i>Alambusha</i>	<i>Sphaeranthus indicus</i> Linn.	Dried mature whole plant	1
2.	<i>Gokshur</i>	<i>Tribulus terrestris</i> Linn.	Dried mature Fruit	1
3.	<i>Guduchi</i>	<i>Tinospora cordifolia</i>	Dried Stem	1
4.	<i>Vridhdadaraka</i>	<i>Argyreia nervosa</i> (Burm.f.) Bojer	Dried Root	1
5.	<i>Pippali</i>	<i>Piper longum</i> Linn	Dried mature Fruit	1
6.	<i>Trivrit</i>	<i>Operculina terpathum</i> Linn.	Dried Root	1
7.	<i>Mustaka</i>	<i>Cyperus rotundus</i> Linn.	Dried Rhizome	1
8.	<i>Varuna</i>	<i>Crataeva nurvala</i> Buch-Ham.	Dried stem Bark	1
9.	<i>Punarnava</i>	<i>Boerhavia diffusa</i> Linn	Dried mature whole plant	1

10.	Haritaki	<i>Terminalia chebula</i> Retz.	Dried mature Fruit	1
11.	Amalaki	<i>Emblica officinalis</i> Gaertn.	Dried mature Fruit	1
12.	Vibhitaka	<i>Terminalia bellirica</i> Roxb.	Dried mature Fruit	1
13.	Sunthi	<i>Zingiber officinale</i> Roxb.	Dried Rhizome	1

**Table-2: Ingredients list of Simhanad Guggulu pill (500 mg pill)**

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

## RESULTS AND DISCUSSION

Results of Phytochemical study (qualitative) of *Alambushadi Churna* tablet (daily dose is 2 gm thrice daily after meal) and *Simhanad*

*Guggulu* pill (daily dose is 1 gm thrice daily after meal) are shown in the table-3.

**Table-3: Data of Phytochemical parameters (Qualitative tests) of Alambushadi Churna tablet (500 mg tablet) and Simhanad Guggulu pill (500 mg pill)**

Sl. No.	Components	Tests	Results	
			<i>Alambushadi Churna</i> tablet	<i>Simhanada Guggulu</i> pill
1.	Reducing sugars	Fehling's test	Positive	Positive
2.	Proteins	Biuret test	Negative	Negative
3.	Tannin	With 5% ferric chloride solution	Positive	Positive
4.	Phenolic compounds	With Lead acetated solution	Positive	Positive
5.	Flavonoids	Shinoda test	Positive	Negative
6.	Cardiac glycosides	Keller-Killiani test	Negative	Negative
7.	Saponin glycosides	Foam test	Positive	Positive
8.	Steroid	Salkowski reaction	Negative	Negative
9.	Gum	Hydrolysis test with dilute HCl	Positive	Positive
10.	Mucilage	With ruthenium red	Negative	Negative

11.	Non-reducing polysaccharides (Starch)	Iodine-test	Negative	Negative
12.	Alkaloids	Mayer's test	Negative	Negative

The above data of the table-3 reveals that Reducing sugars, Tannin, Phenolic compounds, Flavonoids, Saponin glycosides, Gum were present in the sample of *Alambushadi Churna* tablet, but Proteins, Cardiac glycosides, Steroid, Mucilage, Non-reducing polysaccharides (Starch), Alkaloids were not present in the sample of *Alambushadi Churna* tablet. Whereas Reducing sugars, Tannin, Phenolic compounds, Saponin glycosides, Gum were present in the sample of *Simhanad Guggulu* pill, but Proteins, Flavonoids, Cardiac glycosides, Steroid, Mucilage, Non-reducing polysaccharides (Starch), Alkaloids were not present in the sample of *Simhanad Guggulu* pill. On considering this information it can be said that the samples of *Alambushadi Churna* tablet and *Simhanad Guggulu* pill both were containing the Reducing sugars, Tannin, Phenolic compounds, Saponin glycosides and Gum, but Flavonoid was present only in the sample of *Alambushadi Churna* tablet. Whereas the samples of *Alambushadi Churna* tablet and *Simhanad Guggulu* pill both were not containing Proteins, Cardiac glycosides, Steroid, Mucilage, Non-reducing polysaccharides (Starch) and Alkaloids.

### CONCLUSION

It can be concluded on the basis of this comparative Phytochemical study on the sample of *Alambushadi Churna* and *Simhanad Guggulu* pill that reducing sugars, tannin, phenolic compounds, saponin glycosides, and gum were present in the sample of both *Alambushadi Churna* tablet and *Simhanad Guggulu* pill. But flavonoid was pre-

sent in the sample of *Alambushadi Churna* tablet not in the sample of *Simhanad Guggulu* pill. More research work is necessary on this subject for more information and more accuracy.

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*Source of support: Nil*

*Conflict of interest: None Declared*