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Research Article

A COMPARATIVE CLINICAL STUDY OF TWO VARIETIES OF *HARITAKI*, *TERMINALIA CHEBULA* RETZ. AND *TERMINALIA PALLIDA BRANDIS* IN *KAPHAJA KASA*

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ABSTRACT

Kasa, is a disease effecting *Pranavaha srotas*. It may develop as an independent disease or may be a *Lakshana* associated to other disease or sometimes may develop as *Upadrava* of a disease. It is the one of the most prevalent disorder that is annoying the individual and resulting in the change of lifestyle nowadays. Many Ayurvedic drugs are mentioned for the treatment of *Kasa*, of which *Haritaki* is one of the drugs, which is easily available and used extensively for the treatment. The present clinical study was carried out to study the comparative role of two types of *Haritaki*, *Terminalia chebula* Retz. and *Terminalia pallida* Brandis. in relieving *Kaphaja Kasa*. The Clinical trial was conducted on 30 patients between the age group 16 to 60 years. The study is a randomized clinical study and the patients were divided into two groups; each group consisted of 15 patients. Group-A patients were treated with *Churnam* tablets prepared of *Terminalia chebula* Retz. and Group-B patients were treated with *Churnam* tablets prepared of *Terminalia pallida* Brandis., Hot water was advised as *Anupana*. The results were analyzed statistically. The analysis suggested that the Group-B were more effective than Group-A in reducing the signs and symptoms of *Kaphaja Kasa*.

INTRODUCTION

Kasa (cough) is a disease associated with the obstructed *Vayu* resulting in the production of abnormal sound in the process, which may be productive or dry[1]. *Kasa* (cough) is said to be five kinds, all of them lead on to *Kshaya* (emaciation) if neglected and are strong in succeeding order[2]. The patient of *Kaphaja Kasa* sinks down with coated oral cavity and suffers from headache, body is full of oily secretions (*Kapha*), loss of taste perception, heaviness of the body, debility, itching sensation in throat and cough with expectoration[3].

If *Kasa* (cough) is neglected and not treated well, it leads to *Jvara* (fever), *Arochaka* (anorexia), *Hrillasa* (nausea), *Svarabheda* (hoarseness of voice), *Kshaya* (emaciation). Hence the disease should be treated properly[4].

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The management of *Kaphaja Kasa* can be done by *Samsodhana, Samsamana* and *Nidana parivarjana. Acharya Susruta* also said *Vamana* as the first line of treatment of *Kaphaja Kasa*. *Vamana* will expel the *Dushita Kapha* from the *Kaya* giving more and effective result in *Kaphaja Kasa*. Then *Sirovirechana, Virechana* can be planned to expel the *Dosha* in *Siras*, then followed by *Dhumapana* and *Ushna Kavalagrahana*. After the above procedures *Avaleha* made of *Katu dravya* should be taken for the *Soshana* of residue *Kapha* in the *Kaya*[5].

Haritaki is one of the three fruits of *Triphala* and a universally acclaimed Ayurvedic medicine world over. The very first quartet of chapters of *Carakasamhita*, *Cikitsasthana* begins with the title "*Abhayamalakiyarasayanapada*"[6] where the term *Abhaya* means *Haritaki*, apart from this almost all the famous *Dravyaguna Nighantu* (Lexicons) have a chapter titled "*Haritakyadivarga*" indicating the therapeutic importance of it among Ayurvedic faculty. About seven varieties of this wonderful fruit along with instructions of how to use are widely discussed under these sections. The drug is the best wholesome substance and safe for bodily passages[7]. *Haritaki* is

having *Lavana Varjitha Pancharasa*, *Laghu, Ruksha Guna, Ushna Virya, Madhura Vipaka*, *Tridoshahara* and *Rasayana* property[8]. These properties, along with *Ushna Virya* of *Haritaki* removes *Srothorodha* caused by *Kapha Dosha*. Usually, *Terminalia chebula* Retz. is taken as the source of *Haritaki*, apart from this another ecotype which is white in colour and looks similar known as *Terminalia pallida* Brandis. is an endemic plant in Chittoor district of Andhra Pradesh. This is used by folklore physicians in the place of *Terminalia chebula* Retz.

AIMS AND OBJECTIVES

1. To study the comparative role of two types of *Haritaki*, *Terminalia chebula* Retz. and *Terminalia pallida Brandis*. in relieving *Kaphaja Kasa* and a generalized review study.
2. To evolve an effective and commonly available drug to relieve cough.

MATERIALS AND METHODS

Selection of Patients

- Patients were selected from OPD of department of Dravyaguna at S. V. Ayurvedic College/Hospital, Tirupati.
- Around 30 patients were selected from both sexes between ages of 16-60 years.
- Patients fulfilling the criteria for selection were integrated into the study irrespective of cast, religion, etc.
- Respiratory problems mainly based on the signs and symptoms of *Kaphaja Kasa* described in Ayurvedic as well as modern texts in addition to the textual description, were selected for the present study.

Inclusion Criteria

- Patients suffering from *Kaphaja Kasa* in the age group of 16-60 years.
- Patients willing and given written consent for the treatment were selected.

Exclusion Criteria

- Patients below 16 years and above 60 years.
- Patients suffering from Cardiac ailments
- Patients suffering from any others serious diseases like Tuberculosis, etc.
- Those who are very weak and disabled.

General Investigations

Routine haematological investigations

1. TC
2. DC
3. ESR
4. Hb%
5. X-ray chest
6. Sputum for AFB

Method of Research

The method adopted in present study is randomized clinical trial before and after the treatment. The study had a due clearance from the Institutional Ethics Committee Regd. No. A17190510.

Subjective Parameters

Patients were assessed before and after treatment for subjective and objective parameters.

Assessment was totally based on the changes in the clinical features of *Kaphaja Kasa* and improvement in scoring index of *Kasa* (cough), *Kaphastivana* (sputum expectoration), *Pinasa* (rhinitis), *Jvara* (fever), *Svarabheda* (hoarseness of voice). For all these symptoms, a special scoring pattern was used, in this scale various symptoms are graded into different grades as per their severity.

Kaphaja Kasa Rating Scale

***Kasa*/Cough**

Symptom	Grade
No Cough	0
Cough once or twice	1
Severe cough continuous	2
Cough Disturbing daily activities	3

Kaphastivana

Symptom	Grade
No Sputum	0
White coloured sputum	1
Greenish yellow sputum	2
Yellow sputum	3

Pinasa

Symptom	Grade
No secretion	0
Watery secretion	1
Thick secretion	2
Very thick secretion	3

Jvara

Symptom	Grade
Temperature 99^{0}F	0
Temperature between 99^{0}F to 100^{0}F	1
Temperature between 100^{0}F to 102^{0}F	2
Temperature above 102^{0}F	3

Svarabheda

Symptom	Grade
Absent	0
Mild	1
Moderate	2
Severe	3

Objective Parameters

1. TC
2. ESR
3. Eosinophil count

Grouping and Posology

Patients will be divided into two groups, each group consisting of 15 patients.

- **Group A:** *Churnam* tablets prepared of *Terminalia chebula* Retz. were given to the patient and advised to take 2 tablets (each of 500mg) thrice a day along with warm water as *Anupana*.
- **Group B:** *Churnam* tablets prepared of *Terminalia pallida* Brandis. were given to the patient and advised to take 2 tablets (each of 500mg) thrice a day along with warm water as *Anupana*.

Procurement and Preparation of Medicine

The Fruits of two varieties were procured from the natural sources of Tirumala hills of Tirupati region. Authentification of the plant materials was done by the Department of Dravyaguna, S.V. Ayurvedic Medical College, Tirupati by examining the macroscopic and microscopic characteristics of the fruits.

Both of the fruits are thoroughly cleaned to remove dust particles and shade dried to making powder form. These dried fruits were individually pulverized. The obtained coarse powder was sieved with mesh no 100 to obtain fine powder of all the two drugs. The powders of both varieties of *Haritaki* were separately transferred into three trays and the binding agent was added slowly and mixed uniformly. After adding the binding agent, the trays were transferred into drying machine and are arranged in layers separately. These trays were kept in drying machine for about 3 hrs. From the trays, the two drugs were transferred into a granulation machine and fine granules were collected in large vessels. The collected granules were made into 500mg. tablets in tablet making machine. The tablets thus obtained were approximated to 500mg tablets on an average.

The above mentioned process was carried out in Srinivasa Ayurveda Pharmacy, Srinivasa Mangapuram.

Follow up

The duration of treatment was 15 days and then follow-up at the interval of every week.

Statistical Evaluation of Results

The obtained information was analysed statistically in terms of mean score (x), Standard Deviation (S.D), Standard Error (S.E) and Paired t-Test was carried out at the level of 0.05, 0.01 of P levels. For more effectiveness of the therapy, Paired t- Test is carried out.

The results were interpreted as

P > 0.05 - Not significant

P < 0.05 - significant

P < 0.01 - Extremely significant

Overall assessment was based on the % of relief.

OBSERVATION AND RESULTS

Table 1: Showing the effect of therapy on Subjective parameters in Group A

Parameter	N	B.T Mean	A.T Mean	Mean Difference	Relief %	S.D		S.E	t-value	p-value	Inference
						B.T	A.T				
Kasa	15	1.47	0.40	1.07	72.72	0.52	0.51	0.15	6.95	<0.0001	Extremely significant
Kapha Stivana	15	0.93	0.47	0.47	50	0.7	0.52	0.13	3.5	0.0035	Very significant
Pinasa	15	0.4	0.13	0.27	66.6	0.51	0.35	0.11	2.25	0.0406	Significant
Jvara	15	0.27	0.07	0.2	75	0.46	0.26	0.10	1.87	0.0824	Not Significant
Svara Bheda	15	1.07	0.03	0.73	68.75	0.80	0.49	0.20	3.55	0.0032	Very Significant

Table 2: showing the effect of therapy on Subjective parameters in Group B

Parameter	N	B.T Mean	A.T Mean	Mean Difference	Relief %	S.D		S.E	t-value	p-value	Inference
						B.T	A.T				
Kasa	15	1.53	0.13	1.40	91.30	0.52	0.35	0.13	10.69	<0.0001	Extremely Significant
Kapha Stivana	15	1.13	0.13	1.00	88.23	0.52	0.35	0.09	10.24	<0.0001	Extremely Significant
Pinasa	15	0.60	0.13	0.47	77.77	0.63	0.35	0.16	2.82	0.0135	Significant
Jvara	15	0.33	0.07	0.27	80	0.49	0.07	0.11	2.25	0.0406	Significant
Svara Bheda	15	1.13	0.07	1.07	94.11	0.83	0.26	0.20	5.17	0.0001	Extremely Significant

Table 3: showing the effect of medicine on TC of both the groups

Group	N	BT Mean	A.T Mean	Mean difference	%	S.D		S.E	t-value	p-value	Inference
						B.T	A.T				
A	15	8140	8653.33	513.33	6.3	27.04	1012.68	199.73	2.57	0.022	Significant
B	15	8093.33	8680	586.67	7.25	1771.79	1487.18	232.35	2.52	0.024	Significant

Table 4: showing the effect of medicine on Eosinophils of both the groups

Group	N	BT Mean	A.T Mean	Mean difference	%	S.D		S.E	t-value	p-value	Inference
						B.T	A.T				
A	15	7.60	5.13	2.47	32.5	1.40	1.13	0.389	6.34	<0.0001	Extremely Significant
B	15	7.53	6.07	1.46	19.4	1.55	1.33	0.35	4.18	0.0009	Extremely Significant

Table 5: showing the effect of medicine on ESR of both the groups

Group	N	BT Mean	A.T Mean	Mean difference	%	S.D		S.E	t-value	p-value	Inference
						B.T	A.T				
A	15	46.53	31.73	14.8	31.8	11.38	11.07	1.95	7.59	<0.0001	Extremely Significant
B	15	48.93	36.47	12.46	25.5	11.59	10.95	2.18	5.71	<0.0001	Extremely Significant

Interpretation of Results of Subjective Parameters in Group A and Group B

Group A: Out of 15 patients in group A, the *Churna* tablets made of *Terminalia chebula* Retz. showed extremely significant result in relieving the subjective parameter *Jvara* (fever) with the Relief of 75%, *Kasa* (cough) with 72.72%, *Svarabheda* (hoarseness of voice) with 68.75%, *Pinasa* (rhinitis) with 66.6% and *Kaphastivana* (sputum expectoration) with 50%.

Group B: Out of 15 patients in group B, the *Churna* tablets made of *Terminalia pallida* Brandis. showed extremely significant result in relieving the subjective parameter *Svarabheda* (hoarseness of voice) with the Relief of 94.11%, *Kasa* (cough) with 91.3%, *Kaphastivana* (sputum expectoration) with 88.23%, *Jvara* (fever) with 80% and *Pinasa* (rhinitis) with 77.77%.

Interpretation of Results of Objective Parameters in Group A and Group B

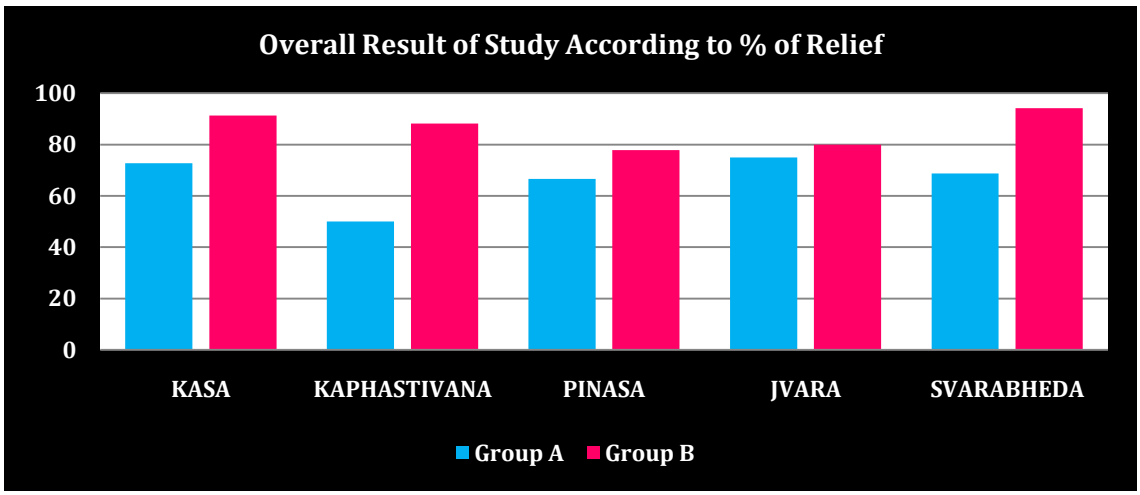
TC: In this study, both the groups showed statistically significant result. In group B, it has shown 7.25% increase in the result with p value 0.024 than group A (p value 0.022) with increase in the number of cells.

Eosinophils: In this study, both the groups showed extremely statistically significant result. In group B, p value is 0.0009 with 19.4% decrease in the Eosinophils count than Group A (p value <0.0001).

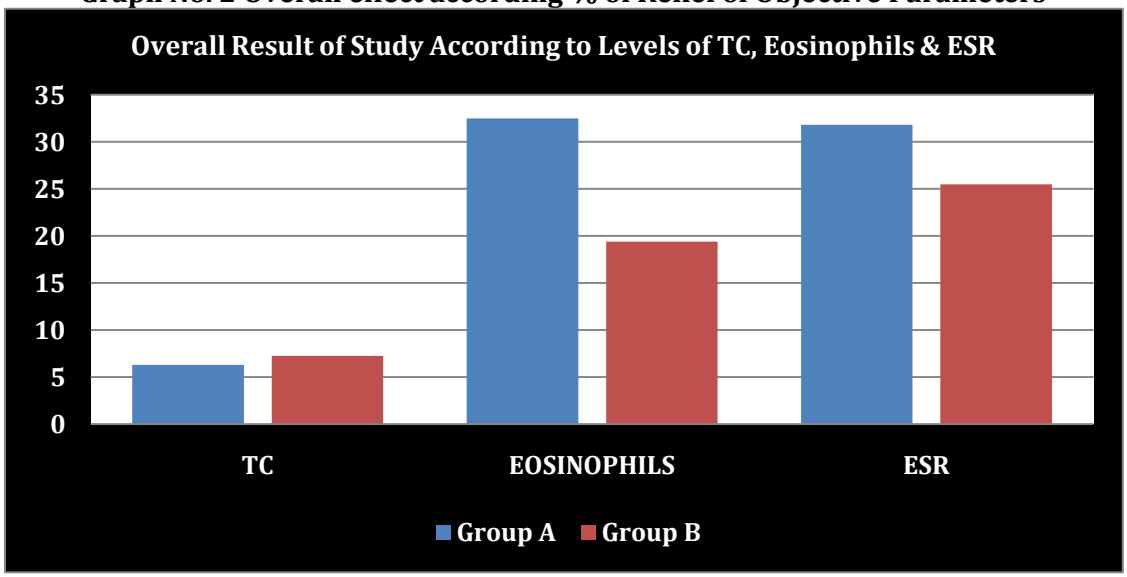
ESR: In this study, both the groups showed extremely statistically significant result. In group B, p value is <0.0001 with 25.5% decrease in the ESR than Group A with p value <0.0001 at 31.8%.

Overall Result of Study

Graph No. 1 Overall effect according % of Relief of Subjective Parameters



Graph No. 2 Overall effect according % of Relief of Objective Parameters

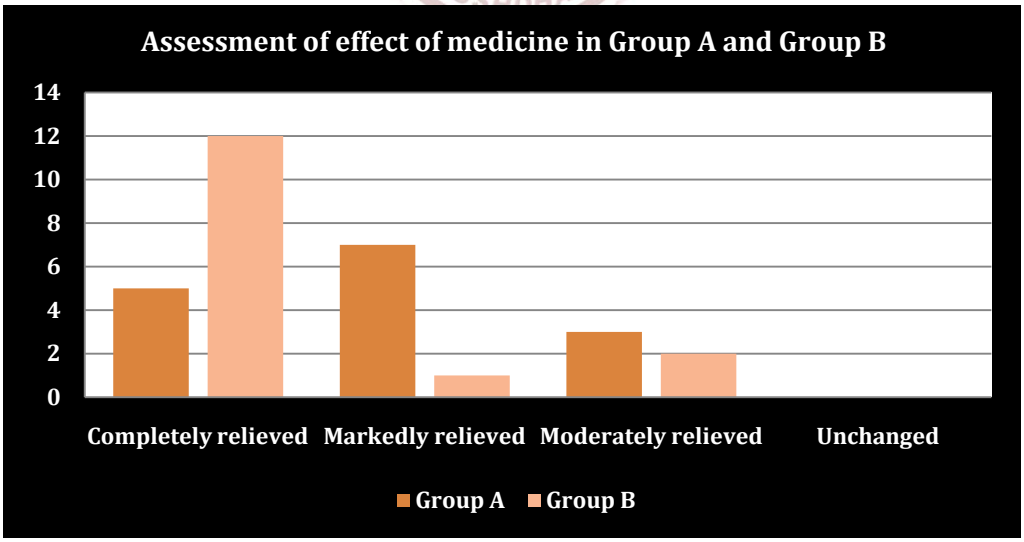


The overall result showed that the medicine was effective for group B patients who were administered with the *Churna* tablets prepared of *Terminalia pallida* Brandis. fruit than group A patients who were administered with the *Churna* tablets prepared of *Terminalia chebula* Retz.

Table No.6 Effect of medicine on Group 'A' and Group 'B' patients

Assessment	Group A		Group B	
	No. of patients	% of Patients	No. of patients	% of Patients
Completely relieved	5	33.33	12	80
Markedly relieved	7	46.67	1	6.67
Moderately relieved	3	20	2	13.33
Unchanged	0	0	0	0

Graph No.3 showing Assessment of effect of medicine in Group A and Group B



On assessment, completely relieved patients are 12 from group B and from group A are 5. Markedly relieved patients are 7 from group A and 1 from group B and moderately relieved are 3 from group A and 2 from group B.

DISCUSSION

Kaphaja kasa which is equivalent to acute and chronic bronchitis in modern medicine is an airway inflammatory disorder. In Ayurveda, *Pranavata* and *Udana vata* are generally associated with *Kapha dosa* in this disorder. Among the many prescribed drugs, the common pharmacological property is that they should act as *Rasayana*, *Balya*, *Amahara*, *Pachana*, and *Kapha vilayana.* In the *Samhitas*, *Haritaki* is considered the best drug and occupies the first place among *Rasayana* drugs and *Kasa-svasahara* drugs. *Haritaki* is having

Lavana varjitha Pancharasa, *Laghu, Ruksha Guna, Ushna Virya, Madhura Vipaka*, *Tridoshahara* and *Rasayana* property. By virtue of these properties *Haritaki* is responsible for *Kapha nirharana* and *Vatanulomana* by *Kaphaja Kasa* is relieved.

In the present study, patients suffering from *Kasa* (cough) obtained maximum relief in group B 91.3% when compared to group A i.e., 72.7%. Patients suffering from *Kaphastivana* (sputum expectoration) obtained maximum relief in group B i.e., 88.23% when compared to group A i.e., 50%. Patients suffering from *Pinasa* (rhinitis) obtained maximum relief in group B i.e., 77.7% when compared to group A i.e., 66.6%. Patients suffering from *Jvara* (fever) obtained relief in group B i.e., 80% when compared to group A i.e., 75%. Patients suffering from *Svarabheda* (hoarseness of voice) obtained maximum relief in group B i.e., 94.11% when compared to group A i.e., 68.75%.

Improvement of the *Kaphaja Kasa* was Statistically Extremely significant in Group-B (80%) compared to Group-A (33.33%).

CONCLUSION

As both the types of *Haritaki* belong to the same family Combretaceae and same genera *Terminalia*, both the fruits consists of almost similar chemical constituents, which act as mucolytic, anti-secretive and bronchodilatory action.

On assessment of the entire study which is aimed primarily at the comparative study of two types of *Haritaki*, it is observed that *Terminalia pallida* Brandis. Though available in limited geographical area has almost equal therapeutic action which that of its counterpart and more specifically in controlling a primary symptom i.e., *Svarabheda* (hoarseness of voice). Overall *Terminalia pallida* Brandis. is also useful clinically for the treatment of *Kaphaja Kasa*.

REFERENCES

1. Kashinath Shastri, Dr.Gorakhnath chaturvedi, Caraka samhitha of Agnivesa, revised by Caraka and Drdhabala, Chowkhamba Bharti Academy, Varanasi 2001.C.S.Cl 18/8 Page no. 455.
2. Acharya Vagbhata, Astanga Hridaya, Vol.2, translated by Prof. Srikantha murthy K.R, Chaukhamba krishnadas Academy, Varanasi, Reprint 2012, sloka no 3/17b-18a, page no 33.
3. Acharya Susruta, Susruta Samhita,, translated by Prof. Srikantha murthy K.R,Vol-3, Chaukhamba Orientalia, Varanasi reprint 2012, S.S.Ut 52/10, page no 345.
4. Dr. Bulusu Sitaram commentary on Bhavaprakasa of Bhavamisra, Chaukhamba Orientalia, Varanasi reprint 2014. Vol-2, madyamakhanda 12/7, page no.196.
5. Bhaisajya ratnavali by shri Govinda Dasji, Vol 1, Chaukhamba Sanskrit sansthan, Varanasi, Reprint 2016.(B.R 15/12 page 834).
6. Charaka Samhita, Ram Karan Sharma & Vaidya Bhagwan Dash, Chowkambha Sanskrit Series office, Varanasi. Reprint: 2008; Vol- 3; page no.3.
7. Ibid; Vol- 1; page no.429.
8. Bhavamishra's, Bhavaprakasa Nighantu, commentary by Dr. Chunekar K.C, edited by Dr. Pandey G.S, Varanasi: Chaukambha Bharathi Academy, Reprint 1999, page no. 984.

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