

CLINICAL STUDY TO EVALUATE EFFECT OF PIPPALI CHOORNA WITH MADHU ON BAALA KAPHAJA KASA

Thushar T. S¹, Prasanna Keshav B², Sharadha M. K³

¹P G Scholar; ²Assistant Professor; ³Professor;
Dept of P G Studies in Kaumarabhrithya, Alva's Ayurveda Medical Collage,
Vidhyagiri, Moodbidri, Karnataka, India

Email: drthushar@gmail.com

ABSTRACT

Childhood being the *Kapha* predominant age, children are more often to suffer with various *Pranavaha Srotho Vikaras*. *Kaphaja Kasa* is one such condition for which our literature has numerous formulations. Even though specific antibiotics, antitussive, expectorants are being used in the contemporary science has only been able to give short period of remission. Ayurvedic formulations with the properties like *Kaphavatahara*, *Lekhana*, *Kaphachedaka*, *Swarya*, *Tridoshagna* and *Rasayana* may act as immune modulators and helps to cease the further progression of pathogenesis resulting in long standing effects. In this regard, an effective, in expensive and easily available preparation is required to treat *Kaphaja Kasa* in children. **Aim:** To evaluate effect of *Pippali Choorna* with *Madhu* on *Baala Kaphaja Kasa*. **Methods:** An open trial single group clinical study with minimum of 30 patients between the age group of 8 to 16 years with *Kaphaja Kasa* over a period of 14 days. **Results:** The clinical study showed highly significant results in relieving the clinical symptoms of *Baala Kaphaja Kasa*. **Conclusion:** *Pippali Choorna* with *Madhu* has significant effect on *Baala Kaphaja Kasa* and can be used as the drug of choice in the management of *Baala Kaphaja Kasa*.

Keywords: *Baala Kaphaja Kasa*; *Pranavaha Srotas*; *Pippali Choorna*; *Madhu*;

INTRODUCTION

Disease creates an obstacle in the achievement of good health. Many childhood disorders although are less life threatening instead cause growth retardation and disturbed daily routine due to their recurrent nature. Among many such diseases the disease *Kasa* is one such clinical manifestation affecting the *Pranavaha Srotas* (Respiratory System) whose management is challenging to pediatricians as recurrent attacks happens. Recurrent attacks of this problem

lead to adverse effects on the routine activities of the children and so is one of the most common reasons for which parents seek medical attention for their child. As the childhood is *Kapha Dosa Pradana Kaala*¹ children are more prone to get afflicted with *Kaphaja Kasa*. In *Kaphaja kasa* the various etiological factors aggravate *Kapha* which obstructs the *Vata* thereby leading to manifestation of *Kaphaja kasa*.²

Excessive indulgence in *Kapha Prakopakara Ahara and Vihara* (Food and Activities) increases the incidence of *Kaphaja Kasa*. Day sleep and exposure to cold environment and dust aggravates *Kaphaja Kasa*. Inordinate indulgence in *Guru* (Heavy), *Abhishyandi* (Substances which causes obstruction to the channels of circulation), *Madura* (Sweet), *Snigdha aahara* (Unctuous) and *Divaswapna* (Day Sleep) are the specific etiological factors for *Kaphaja Kasa*. These factors end up in the vitiation of *Kapha Dosha* which creates an obstruction for the movement of *Vata Dosha* resulting in the manifestation of *Kaphaja Kasa*.

Clinically *Kaphaja Kasa* presents with the symptoms like *Kaphasampoorna Ura* (Feeling of fullness of chest with Phlegm), *Mandagni* (Reduced appetite), *Aruchi* (Anorexia), *Peenasa* (Rhinitis), *Lomaharsha* (Horripilations), *Aasyamadurya* (feeling of sweatness in oral cavity), and cough along with thick *Kapha* as sputum.³

Oral administration of the medicines is one among the important *Shamana* line of treatment which is very easily administered, well accepted and also effective compared to *Shodhana* in children. Many more herbal combinations are described in *Ayurveda* and their therapeutic effect in *Kasa* is yet to be explored. Hence it is the need of the hour to bring out a permanent remedy which will be safe, cheap, effective and palatable in the management of *Baala Kaphaja Kasa*. Keeping above facts in mind, the present clinical study is undertaken by choosing *Pippali Choorna* with *Madhu* which is indicated on *Kasa* and *Swasa* specifically for paediatric age group⁴.

OBJECTIVES:

To study the effect of *Pippali Choorna* with *Madhu* on *Baala Kaphaja Kasa*

MATERIALS AND METHODS:

Study Design:

It was an open labelled clinical study with pre-test and post-test design; patients were selected based on inclusion criteria.

Intervention:

Pippali Choorna was prepared. This was administered to 31 patients including one drop out. Drug dosage was fixed according to classical dosage for *Choorna*⁵. Dose of 8 grams/day for the age group of 8 to 12 years and 10 grams/day for the age group of 12 to 16 years, both in divided doses, QID after food, along with *Madhu* for 7 days was given.

Follow up Study:

Follow up period were 7 days, on the 14th day patient was asked to come to OPD for evaluation.

Inclusion Criteria:

- Patients between age group of 8 to 16 years who fulfil the diagnostic criteria.
- Patients irrespective of sex, religion, socio-economic status, are taken for study.
- *Kasa* with or without other symptoms described in the context of *Kaphaja Kasa* will be included.

Exclusion Criteria:

- All other types of *Kasa* except *Kaphaja Kasa*
- *Kaphaja Kasa* as an *Anubandha Lakshana* in other systemic diseases.

ASSESSMENT CRITERIA:

Clinical assessment was done on the basis of gradation of both the subjective and objective parameters. The gradations of the assessment parameters on B.T (On 1st Day), A.T (On 7th Day) and F.U (On 14th Day) were taken for the Statistical Analysis. B.T- Before Treatment, A.T- After Treatment, F.U- Follow Up

➤ Subjective parameters:

Kasa-Severity, *Nishtivana*, Throat congestion, *Urah-vankshana sampoornatwa*, *Kaphapoorna deha*, *Mandagni*, *Aruchi*, *Peenasa*, *Shiroruja*.

➤ Objective parameters:

Quality and Consistency of Sputum.
Blood examination - TC, DC, ESR.

Statistical Evaluation

Statistical analysis was carried out using the graph pad In Stat Software. Test was paired 't' test. Mean score BT, AT and FU, SD, SEM, d, % of relief and 't' was noted, After obtaining 't' value the corresponding 'P' value against particular degree of freedom was noted on the Table of 't'. P value < 0.05 was considered as statistically significant, P < 0.01 very significant, P < 0.001 and P < 0.0001 was con-

sidered as highly significant. P value > 0.05 was considered as statistically insignificant.

RESULTS

Results were obtained within the group and the data observed in BT (On 1st Day), AT (On 7th Day) and FU (On 14th Day) are compared by using paired 't' test and the effect of treatment is analyzed in each subjective and objective parameters. Statistical analysis was done using the graph pad In Stat software.

Subjective parameters:

Table 1: Showing effect on Subjective parameters

Parameters		Mean	Diff d	Paired t				Significance
				SD	SEM	t Value	P Value	
<i>Kasa Severity</i>	BT	2.96		0.18	0.03			
	AT	1.16	1.8	0.38	0.06	24.23	<0.0001	Highly Significant
	FU	0.23	2.73	0.43	0.07	33.28	<0.0001	Highly Significant
<i>Nishteavana</i>	BT	2.83		0.38	0.06			
	AT	1.14	1.69	0.43	0.07	17.40	<0.0001	Highly Significant
	FU	0.30	2.53	0.46	0.08	24.28	<0.0001	Highly Significant
Throat Congestion	BT	0.93		0.25	0.04			
	AT	0.17	0.76	0.38	0.07	9.76	<0.0001	Highly Significant
	FU	0.06	0.87	0.25	0.04	13.72	<0.0001	Highly Significant
<i>Urovankshana Sam-poornatwa</i>	BT	2.9		0.30	0.05			
	AT	1	1.9	0.58	0.10	17.13	<0.0001	Highly Significant
	FU	0.20	2.7	0.40	0.07	31.72	<0.0001	Highly Significant
<i>Kaphapoorna Deha</i>	BT	1.9		0.30	0.05			
	AT	0.73	1.17	0.74	0.13	9.14	<0.0001	Highly Significant
	FU	0.2	1.7	0.40	0.07	19.97	<0.0001	Highly Significant
<i>Mandagni</i>	BT	2.86		0.34	0.06			
	AT	0.60	2.26	0.72	0.13	16.78	<0.0001	Highly Significant
	FU	0.13	2.73	0.34	0.06	33.28	<0.0001	Highly Significant
<i>Aruchi</i>	BT	2.76		0.50	0.09			
	AT	0.66	2.1	0.71	0.12	14.32	<0.0001	Highly Significant
	FU	0.2	2.56	0.40	0.07	24.73	<0.0001	Highly Significant
<i>Shiroruja</i>	BT	2.73		0.44	0.08			
	AT	1.1	1.63	0.40	0.07	16.69	<0.0001	Highly Significant
	FU	0.13	2.6	0.34	0.06	28.58	<0.0001	Highly Significant
<i>Peenasa</i>	BT	2.83		0.37	0.06			
	AT	1.06	2.67	0.44	0.08	22.49	<0.0001	Highly Significant
	FU	0.16	1.77	0.37	0.06	30.46	<0.0001	Highly Significant

Objective Parameters**Table 2:** Showing effect on Objective parameters

Parameters		Mean	Diff d	Paired t				Significance
				SD	SEM	t Value	P Value	
Sputum	BT	2.86		0.34	0.06			
	AT	1.06	1.8	0.52	0.09	17.89	<0.0001	Highly Significant
	FU	0.16	2.7	0.37	0.06	31.72	<0.0001	Highly Significant
Total Count	BT	9150		2574.11	469.97			
	AT	8370	780	1983.58	362.15	2.63	0.0135	Significant
Lymphocytes	BT	36.33		9.42	1.72			
	AT	42.1	5.77	8.83	1.61	3.643	0.001	Highly Significant
Neutrophils	BT	57.93		10.54	1.92			
	AT	48.53	9.4	13.97	2.55	3.95	0.0005	Highly Significant
Monocytes	BT	1		0.26	0.09			
	AT	0.8	0.2	0.48	0.05	1.98	0.0563	Not Significant
Eosinophils	BT	5.73		1.68	0.31			
	AT	4.57	1.17	1.10	0.20	3.40	0.002	Very Significant
ESR	BT	17.47		3.96	0.72			
	AT	15.73	1.74	3.96	0.72	2.61	0.0140	Very Significant

SD- Standard Deviation, SEM- Standard Error Mean, t-Test of significance, P- Probability, >- More than, <- Less than, N- Sample size, %- Percentage, Diff d- Difference, BT- Before Treatment, AT- After Treatment, FU- Follow Up.

In the present study on *Baala Kaphaja Kasa* with *Pippali Choorna* and *Madhu*, after treating it showed 60.81% improvement in *Kasa-Severity*, 59.71% in *Nishteavana* (Expectoration), 81.72% in Throat congestion, 65.51% in *Urovankshana Sampoor-natwa* (Fullness of chest), 61.57% *Kaphapoorna Deha* (Fullness of Body), 79.02% in *Mandagni* (Reduced power of digestion), 76.08% in *Aruchi* (Anorexia), 59.70% in *Shiroruja* (Head ache), 62.54% in *Peenasa* (rhinitis), 62.93% in Sputum.

Effect of Trial Drug**A. Subjective Parameters****1. Kasa-Severity**

Trial drug is having *Kapha-Vatahara* properties; hence it was effective in controlling *Kasa- Severity*.

2. Nishteavana (Expectoration)

Kapha-Vatahara properties of the drug were effective to control *Nishteavana* in *Baala Kaphaja Kasa*.

3. Throat Congestion

Ruksha (Dry), *Ushna* (Hot) and *Laghu* (Light) properties of the drug were found effective in controlling Throat Congestion in *Baala Kaphaja Kasa*.

4. Urovankshana Sampoor-natwa & Kaphapoorna Deha

Katu (Pungent) *Rasa*, *Ushna* (Hot) *Veerya* and *Kapha Chedana* (Removing phleum) properties of drug was found effective in controlling *Urovankshana Sampoor-natwa & Kaphapoorna Deha*

5. Mandagni

Deepana-Pachana (Carminative-Digestive) effect of the drug was found effective in *Mandagni*

6. Aruchi

Katu (Pungent) *Rasa* of the drug helps to control the *Aruchi*.

7. Shiroruja

Kaphanisarana (Liquifying phleum) and *Rechaka* (eliminating) Properties of the drug eliminated the morbid *Kapa Dosha* from *Shira Pradesha* resulting in the reduction of *Shiroruja*.

8. *Peenasa*

Ruksha (Dry) and *Ushna* (hot) *Guna* (Property) of *Pippali* reduced the excessive morbid *Kapa dosha* from the *Prana Vaha Srotas* (Respiratory Tract). Hence it was found effective in *Peenasa*.

9. *Sputum*

Pippali choorna is having the property of *Kaphavilayana* (Liquifying and removing). Hence it was effective in reducing consistency of *Sputum*.

B. Objective Parameters

1. Total Count

Total count WBC shows that this drug acts by reducing infection and inflammation which is the main causative factor of the pathology in *Baala Kaphaja Kasa*.

2. Eosinophills

After treatment value reduced, this suggests that this drug may be helpful to decrease the allergic conditions.

3. Erythrocyte Sedimentation Rate

After treatment value reduced, suggests that this drug may be helpful to decrease the inflammations.

DISCUSSION

Balyavastha being *Kapha* predominant *Avastha*, indulging in *Kaphakara Ahara* and *Vihara* dominantly increased the incidence of *Kaphaja Kasa* in children. Excessive exposure to dust, smoke, pollens, cold environment and intake of *Abhisyandhi* and *Sheeta Aharas* are considered as aggravating factors. These factors are responsible for hyper production of mucus in the *Pranavaha Srotas* which causes obstruction to the movement of *Vata* in the *Pranavaha Srotas*. It results in *Kaphaja Kasa* in order to expel these secretions.

Pippali Choorna with *Madhu* which was used as *Shamana Yoga* helped in reducing the severity of *Kaphaja Kasa* in children. Along with *Madhu*, no patients refused to take it orally and none of the patients showed any kind of complications.

The probable mode of action of present *Yoga* might be due to *Kaphachedaka* and *Rechaka* properties,

which helps in *Vata Anulomana* and subsequently pacifying the condition *Kaphaja Kasa*.

Predominant *Rasa* of the drug is *Katu Rasa*, which is having the main characteristic properties like *Kledopashoshana*, *Kaphavilayana* and *Kaphanisarana*. This property will helps in removal of excessive production of mucus secretion from the respiratory passages. Apart from this being a *Katu Rasa Pradanya Yoga*, this helps in easy absorption and easy assimilation of the drugs and it have *Kantashodana* and *Aruchinashaka* properties. So this helps in relieving the *Kantodwamsa* and loss of appetite of *Kaphaja Kasa* due to *Agni Deepana* and *Amapachaka Guna*.

CONCLUSION

Kaphaja Kasa is a disturbing disease of *Pranavaha Srotas*, commonly observed in general practice and also common in children. Vitiating *Kapha* and *Vata Dosha* plays an important role in the manifestation of *Kasa*. Pathogenesis involves Vitiating of *Rasa Dathu* by the vitiating *Doshas* leading to *Mandagni*, *Aruchi* and *Kasa*. Children with *Kapha-Vata Prakruthi* are more prone to get *Kaphaja Kasa*. The drug was well tolerated by children and there were no adverse effects reported. It is cost effective, easily available, easily administrable and safe in children. So it can be concluded that the drug *Pippali Choorna* with *Madhu* can be used as the drug of choice in the management of *Baala Kaphaja Kasa*.

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