

## CLINICAL EFFICACY OF *YAVĀNYĀDIPEYĀ* IN THE MANAGEMENT OF *KĀSA*

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### ABSTRACT

**Introduction:** *Kāsa* seems to be a very simple disease, if neglected or not managed properly; it may results in disease with poor prognostic condition. In *Āyurveda*, *kāsa* is considered as an independent disease unlike in modern science. It may also occur as a *lakṣaṇa* or an *upadrava* in other diseases. Cough (*Kāsa*) usually occurs in association with acute upper respiratory infection, acute pharyngitis, acute bronchitis and chronic sinusitis, all of which rank among top 10 reason for visiting family physicians. **Material & Methods:** A non-randomized, single-armed, open-labeled clinical trial was conducted in thirty patients having classical symptoms of *Kāsa*,

administered with *Yavānyādipeyā* in the dose of 1 *karśa* in morning and 1 *karśa* in evening empty stomach by advised them to prepare *peyā* by adding 10ml *ghṛta*, *daḍima* and *saindhava lavaṇa*. The assessment was based on subjective parameters, i.e., *śuṣkavakraśuṣkoraḥa*, *śuṣkakaṇṭha*, *hṛtsūlapārśvaśūla* etc. The results were statistically analyzed using the Mann- Whitney test. **Results:** Mild relief was found in 1 (6.67%) patients, while moderate relief in 8 (53.33%) patients and complete improvement was found in 6(40%) patients. **Conclusion:** *Yavānyādipeyā* can be considered as an effective formulation in the management of *Kāsa*.

**KEYWORDS:** *Kāsa*, *śuṣkavakra*, Cough, *pārśvaśūla*.

## INTRODUCTION

*Āyurveda* is the ancient experiential life-science. It has own fundamentals and concepts regarding etio-pathogenesis of disease and its management. *Āyurveda* treatment aims not only at removal of disease, but also at the restoration of the equilibrium of bodily functions.<sup>[1]</sup> With increasing trend of globalization and urbanization, disorders due to changing life style are in vogue. One such medical concern of global importance is respiratory illness. The living standard of human life is changing. The life style pattern is getting better adapted to the fast and furious growth on the globe. Thus there is a variation in immunity and affinity of attraction for diseases. This variation is seen changing from age to age, country to country in the world. To accomplish the *suhkha* or in the quest of happiness, man is always engaged to find the suitable ways to attain the happiness but unfortunately the body is invited by various diseases, which interrupt the ways of life and human is virtuously trying how to overcome it. The essential disposition of living activity in a living being is said to be breathing, one of the basic activity of *prāṇavahasrotasa*. The lungs with their greater surface area (500 m<sup>2</sup>) are directly open to the external environment, with the exchange of gases, 16 times per minute making it one of the most vulnerable sites for disease. Thus structural, functional, and microbiological changes within the respiratory system can be closely related to epidemiological, environmental, occupational, personal, and social factors. The primary respiratory diseases are responsible for a major burden of morbidity and ultimately death. As a result *prāṇavahasrotoduṣṭi* has become unavoidable making *kāsa* the most common disease to the extent of 60% of total disease symptom making its appearance special. From time immemorial it has remained as a common ailment within human beings. *Kāsa*, early intervention is important in the field of medicine. Even with today's resources, *kāsa* remains a challenging pathological condition of the respiratory system and can turn heads up if neglected or mismanage recorded. *Kāsa* has been described as a disease as well as a symptom of other diseases.

*Kāsa* may not be life threatening but increasingly annoying and irritating the individuals in their routine activities. Moreover when neglected it may lead to a series of complications. Recurrent attacks make the individual suffer and may have its adverse effects on the studies. Cough usually occurs in association with acute upper respiratory infection, acute pharyngitis, acute bronchitis and chronic sinusitis, all of which rank among top 10 reason for visiting family physicians.

Cough is the most common symptom of airway and lung disease. More money is spent at the pharmacy on ‘coughs and colds’ than on any other symptom except perhaps ‘aches and pains’. It can be a presenting symptom in lot of clinical conditions of the respiratory system in the view of both major pathy in India. At International meetings of the American Thoracic Society and The European Respiratory Society, cough is one of the most frequent items listed in the proceedings’ indices. Early intervention is necessary in case of *kāsa* (cough) as it is a potential *nidānārthākaravyādhi* (diseases as causative factors for other diseases) to produce *kṣhaya* (consumption).<sup>[2]</sup> Also it is important to treat at the earliest as it may hamper the proper *vṛiddhi* (growth and development) which is clearly described by *Ācārya Caraka*, that *avighāta* (absence of inhibiting factors) as *śārīravṛiddhikarabhāva* (factors responsible for growth of body).<sup>[3]</sup> Thus in the present work *kāsa* (cough) was taken as the subject of intervention. Keeping all these facts in the background, the present clinical study was designed to evaluate the effect of classical *yoga* described by the *ācārya* in their respective texts for the management of *kāsa* which are – *yavānyādipeyā*.<sup>[4]</sup>

### *Yavānyādipeyā*

S. No.	Sanskrit name of drug	Botanical name <sup>[5]</sup>	Part used	Quantity ( <i>mātrā</i> )
1.	<i>Yavānī</i>	<i>Trachyspermum ammi</i> Linn.	Fruit	1 part
2.	<i>Pippalī</i>	<i>Piper longum</i> Linn.	Fruit	1 part
3.	<i>Bilva</i>	<i>Aegle marmelos</i> Corr.	Fruit	1 part
4.	<i>Śuṅṭhī</i>	<i>Zingiber officinale</i> Roxb.	Rhizome	1 part
5.	<i>Citraka</i>	<i>Plumbago zeylanica</i> Linn.	Root	1 part
6.	<i>Rāsanā</i>	<i>Pluchea lanceolata</i> C.B.Clarke	Leaves	1 part
7.	<i>Ajājī</i>	<i>Cuminum cyminum</i> Linn.	Fruit	1 part
8.	<i>Prthakparṇī</i>	<i>Uraria Picta</i> Desv	Root	1 part
9.	<i>Palāśa</i>	<i>Butea monosperma</i> (Linn.) Kuntze	Flower	1 part
10.	<i>Śaṭhi</i>	<i>Hedychium spicatum</i> Buchham	Rhizome	1 part
11.	<i>Puṣkaramūla</i>	<i>Inula racemosa</i> Hook.f.	Root	1 part

### AIMS AND OBJECTIVE

1. To study the efficacy of *Yavānyādipeyā* in *vātikakāsa*.

### MATERIAL AND METHODS

The 15 patients having classical symptoms of *vātikakāsa* attending the OPD of *Maulika Siddhanta*, National Institute of Ayurveda, Jaipur were selected irrespective of sex, caste, religion etc., taking due considerations of inclusion and exclusion criteria. The study was started after approval from the Institutional Ethics Committee IEC/ ACA/ 2016/ 26 dated

26.05.2016. Informed written consent was taken from each patient before starting the treatment.

### Method of Administration

15 patients of *vātikakāsa* were administered *Yavānyādipeyā* in the dose of 1 *karśa* in morning and 1 *karśa* in evening empty stomach by advised them to prepare *peyā* by adding 10ml *ghṛta*, *daḍima* and *saindhava lavaṇa*.

### Method of Preparation of Drug<sup>[6]</sup>

Above drugs have been taken in equal proportions and were made in the *yavakūṭacūrṇa* form, and each 200 gms packet is formed. Out of that 12 gms *yavakūṭacūrṇa* was advised to take twice in a day. The medicine was prepared by adding 1 *prastha* of water (i.e. 640ml) and reduced to half after boiling i.e. 320 ml, a *kvātha* is obtained by filtering the decoction. Now *peyā* is formed with this *kvātha* by adding rice along with 10ml *ghṛta*, *daḍima* and *saindhava lavaṇa* according to taste

### Duration of the Trial

The trail was of 15 days where all patients were reviewed thrice on 0<sup>th</sup> day and 7<sup>th</sup> day and 15<sup>th</sup> day i.e. after every 7 days and the assessment was done.

### Inclusion Criteria

1. Patients of either sex with age group 16-60 year.
2. Patient having classical signs and symptoms of *vātikakāsa*
3. Patients willing to sign the consent form.

### Exclusion Criteria

1. The patients suffering from other systemic illness.
2. The patient taking treatment for some other illness.
3. Pregnant ladies.
4. Any other condition where the principle investigator thinks may be jeopardizing the study.

### Criteria for Assessment

Most of the signs and symptoms of *kāsa* are subjective in nature, to give the results objectively and for statistical analysis scoring system have been adopted. The symptoms score obtained before and after treatment, statistical analysis and percentage relief was taken

to know the efficacy of therapy. The details of the assessment of the symptoms rating is given below.

## A) SUBJECTIVE PARAMETERS

### 1. Śuṣkoraḥa (dryness in chest)

	<i>Lakshana</i>		<b>Grading</b>
1.	Not present	None	0
2.	Relieve just after food	Mild	1
3.	Mild increase at the time of digestion	Moderate	2
4.	Increase after digestion	Severe	3

### 2. Śuṣkakaṇṭha (dryness in throat)

	<i>Lakshana</i>		<b>Grading</b>
1.	No dryness	None	0
2.	Mild dryness which subsides by taking water	Mild	1
3.	Causing of dryness patient drinks more water to moisten the mouth	Moderate	2
4.	Dryness not subsides by drinking water	Severe	3

### 3. Śuṣkavakra (dry mouth)

	<i>Lakshana</i>		<b>Grading</b>
1.	No dryness	None	0
2.	Difficulty in chewing	Mild	1
3.	Difficulty in swallowing	Moderate	2
4.	Difficulty in speaking and chewing	Severe	3

### 4. Hṛt Śūla (pain in heart)

	<i>Lakshana</i>		<b>Grading</b>
1.	No pain	None	0
2.	Mild pain with cough	Mild	1
3.	Moderate pain with cough	Moderate	2
4.	Pain with and without cough	Severe	3

### 5. Pāṣy Śūla (pain in flanks)

	<i>Lakshana</i>		<b>Grading</b>
1.	No pain at all	None	0
2.	Pain present at the time of cough and relieve when bout is over	Mild	1
3.	Pain persist sometime after the bout of cough	Moderate	2
4.	Pain present all the time	Severe	3

**6. Uraḥ Śūla (pain in chest)**

	<i>Lakshana</i>		<b>Grading</b>
1.	No pain at all	None	0
2.	Pain present at the time of cough and relieve when bout is over	Mild	1
3.	Pain persist sometime after the bout of cough	Moderate	2
4.	Pain present all the time	Severe	3

**7. Śiraḥ Śūla (headache)**

	<i>Lakshana</i>		<b>Grading</b>
1.	No pain at all	None	0
2.	Pain present at the time of cough and relieve when bout is over	Mild	1
3.	Pain persist sometime after the bout of cough	Moderate	2
4.	Pain present all the time	Severe	3

**8. Moha (delusion)**

	<i>Lakshana</i>		<b>Grading</b>
1.	Not present	None	0
2.	Only present at the time of cough	Mild	1
3.	Present for short duration after the cough	Moderate	2
4.	Present before & after the bout of cough	Severe	3

**9. Kṣobha (anxiety)**

	<i>Lakshana</i>		<b>Grading</b>
1.	Not present	None	0
2.	Only present at the time of cough	Mild	1
3.	Present for short duration after the cough	Moderate	2
4.	Present before & after the bout of cough	Severe	3

**10. Svarakṣaya (hoarseness of voice)**

	<i>Lakshana</i>		<b>Grading</b>
1.	Normal voice	None	0
2.	Present for short duration after the cough	Mild	1
3.	Present for longer duration	Moderate	2
4.	Present all time	Severe	3

**11. Śuṣka Kāsa (dry cough)**

	<i>Lakshana</i>		<b>Grading</b>
1.	No cough	None	0
2.	Cough bouts 0-2 min., freq.1-2 times/day without pain	Mild	1
3.	Cough bouts 2-5min., freq.5-10 times/day without pain	Moderate	2
4.	Cough bouts >5min., freq.10-15 times/day without pain	Severe	3

**12. Kapham Śuṣkaṃ Kṛcchānmuktivā Alpatā Vrajat (difficult expectoration with no or very little sputum, feel relieve after expectoration)**

	<i>Lakshana</i>		<b>Grading</b>
1.	No such difficulty to expectorate	None	0
2.	Dry cough with no sputum without pain	Mild	1
3.	Dry cough with pain and expectoration with slight difficulty	Moderate	2
4.	Dry	Severe	3

All the patients under trial were asked for any changes or improvement in their growing feeling of well being either physical or mental and their clinical manifestations produced by the drug under trial.

**B) OBJECTIVE PARAMETERS**

The following laboratory parameters were used before and after the course of the therapy for the assessment of any changes produced during and after the present clinical research trail.

1. CBC
2. ESR
3. Chest X-ray (wherever required)

**OBSERVATION AND RESULTS**

**Effect on subjective parameters in 15 patients**

To access the efficacy of Group A, intergroup comparison was done. As the variables are nonparametric test used was **Mann-Whitney test**.

S. No.	Clinical Feature	N	Mean		Diff.	Change in %	SD	SE	t	p	Result
			AT	BT							
1	śuṣkoraḥa	15	2.33	1.00	1.33	57.14	0.8997	0.2323	5.7394	0.0002	***
2	śuṣkakaṇṭha	15	2.20	0.87	1.33	60.61	0.7237	0.1869	7.1351	0.0001	***
3	śuṣkavaktrām	15	1.27	0.53	0.73	57.89	0.8837	0.2282	3.2139	0.0078	**
4	hrt śūlam	15	0.73	0.33	0.40	54.55	0.6325	0.1633	2.4495	0.0625	ns
5	pāṣv śūlam	15	1.07	0.27	0.80	75.00	0.6761	0.1746	4.5826	0.0020	**
6	uraḥ śūlam	15	0.53	0.27	0.27	50.00	0.6172	0.1594	2.0917	0.1250	ns
7	śiraḥ śūlam	15	1.07	0.53	0.53	50.00	0.7432	0.1919	2.7792	0.0313	*
8	moha	15	0.60	0.33	0.27	44.44	0.4577	0.1182	2.2563	0.1250	ns
9	kṣobha	15	0.53	0.07	0.47	87.50	0.7432	0.1919	2.4318	0.0625	ns
10	svarakṣayām	15	0.87	0.47	0.40	46.15	0.5071	0.1309	3.0551	0.0313	*
11	śuṣkaṃ kās	15	2.67	0.27	2.40	90.00	0.5071	0.1309	18.3303	<0.0001	****
12	kapham śuṣkaṃ kṛcchāna muktivā alpatā vrajat	15	1.00	0.20	0.80	80.00	1.0142	0.2619	3.0551	0.0156	*



## 2. Improvement in objective parameters

The various laboratory investigations were assessed statistically before and after the treatment. According to that, the results have been summarized.

### Effect on objective parameters in 15 patients

Variable	Mean			% of Change	SD	SE	T	P	R
	BT	AT	Diff						
HB	13.87	13.71	0.15	1.11	0.08	0.02	7.27	0.0850	NS
TLC	7700.00	7606.67	93.33	1.21	109.54	28.28	3.30	0.2637	NS
ESR	16.07	9.00	7.07	43.98	7.81	2.02	3.50	0.0018	HS
N	60.80	59.20	1.60	2.63	3.43	0.89	1.81	0.1383	NS
L	22.60	23.07	-0.47	-2.06	3.76	0.97	-0.48	0.5465	NS
E	2.80	3.20	-0.40	-14.29	3.50	0.19	-2.06	0.1643	NS
M	5.80	5.80	0.00	0.00	0.75	0.27	0.25	>0.9999	NS
B	0.00	0.00	0.00	0.00	1.03	0.00	0.00		
TRBC	4.27	4.07	0.20	4.73	0.00	0.06	3.38	0.0556	NS
TPLC	3.51	3.42	0.09	2.69	0.23	0.34	0.28	0.6746	NS
PCV	43.33	43.28	0.05	0.12	1.33	0.02	2.47	0.262	NS
MCV	78.91	76.79	2.11	2.68	1.00	1.73	1.22	0.0819	NS
MCH	28.01	27.73	0.28	1.00	6.71	0.30	0.94	0.5958	NS
MCHC	31.88	31.61	0.27	0.84	1.65	0.43	0.63	0.4612	NS

(**HB** - Hemoglobin, **TLC**-Total Leucocytes Count, **ESR**-Erythrocyte Sedimentation Rate, **N** – Neutrophylls, **L** – Lymphocytes, **E** – Esinophylls, **M** – Monocytes, **B** – Basophylls, **TRBC** – Total Red Blood Cell count, **TPLC** – Total platelets Count, **PCV** – Packed Cell Volume, **MCV** – Mean Corpusular Volume, **MCH** – Mean Corpusular Hemoglobin, **MCHC** – Mean Corpusular Hemoglobin Concentration).

## DISSCUSSION

As per the description available in *Āyurvedīye* texts, therapeutic effect of a drug depends on certain pharmacodynamic properties of its particular content. These pharmacodynamic properties are *rasa*, *guṇa*, *vīrya*, *vipāka* and *prabhāva*. According to *Āyurvedīye* pharmacodynamic, drug do some part of work through *rasa*, some part through *vīrya*, some through *vipāka* and remaining some part through *prabhāva*.<sup>[7]</sup> The ingredients of *yavānyādipeyā* are predominantly *kaphavāta sāmaka*. Maximum ingredients are *uṣṇavīrya*, *kaṭu*, *tikta rasa*, *kaṭu* and *madhura vipāka*, *laghu*, *snigdha* and *tikṣṇa guṇa* which helps in alleviating the *kaphadoṣa*, *anulomana* of *vātadoṣa* and *srotośodhana* helping the obstructed *udānavāyu* to normalize and leading to *prakṛta gati* of *prāṇavāyu*, hence reliving the signs



and symptoms of *kāsa*. In present study, improvements have been observed following medication. This implies that these medications have therapeutic effects like *kaphavilayana*, *kaphanissaraka*, *vāta śāmaka*, and *vātānulomana* (*prāṇānulomana*), along with *dīpana*, *pācana* and *rocana* qualities. The drugs in the formulations are mainly *uṣṇaguṇa pradhāna*, thereby directly pacifying the *sītaguṇa* of *vāta* and hence relieve the *vātika kāsa*. After a deep insight into the pathogenesis of *vātika kāsa* according to *ayurvediya* principles, it is depicted that *vātika kāsa* is mainly attributed to the *vikṛtagati* of *apānavāyu*. The *pratīlomagati* of *apānavāyu* deranges the *agni* and produces the symptoms like *hṛtsūlapārśvasūla* and *uraḥsūla*. The constituents like *yavānī*, *pippalī*, *śuṅṭhi*, *citraka* and *ajājī* of *yavānyādipeyā* have *dīpana*, *pācana* and *anulomanakarma*. These drugs are also *kaṭu* in *rasa* and *kaṭu* in *vipāka*, which further helps in promoting the *prakṛtagati* of *apānavāyu*. Therefore, it can be inferred that the *kaṭuvipāka* has corrected the *agni* and therefore enhanced the *dīpanapācanakriyā*, and facilitate *anulomana*, thus relieving the symptom like *hṛtsūla*, *pārśvasūla* and *uraḥsūla*. In the pathogenesis of *vātika kāsa*, *apānavāyugati* gets *pratīloma* which in-turn leads to obstruction of *udāna vāyu*. All the *kaṭuvipāka* drugs promote *anulomana* and hence the *udānavāyugati* is also normalized leading to the arrest of the further pathogenesis and thus relieves the signs and symptoms of *vātika kāsa*. In addition to that, drugs like *puṣkaramūla* and *śaṭhi* being mentioned *śvāsahara mahākaṣāya*.<sup>[8]</sup> of *ācārya Caraka*, act through the *dravya prabhāva* and directly correct the *pratīlomagati* of *prāṇavāyu*. Hence the expulsion of *vaiḥṛta prāṇavāyu* through mouth is reversed and relief in *kāsa* is observed. *Yavānyādipeyā* was administered in the patients with *sneha*, *dāḍīma* (*amla rasa*) and *lavaṇa*,<sup>[9,10]</sup> : *Snigdha*guṇa of *snehadravya* is opposite to the *rūkṣaguṇa* of *vāta* and act opposite to the *rūkṣaguṇa* resulting in *śamana* of vitiated *vāta*, *amla rasa* helps to provide the *anulomagati* to *vāta*<sup>[11,12]</sup> and *lavaṇa* added with *ghṛta* (*sneha*) reduced the increased *vāta doṣa*.<sup>[13]</sup>

## CONCLUSION

The formulation *yavānyādipeyā* as a whole was *vātaśāmaka* and *vātaanulomaka* and thus useful effectively in the management of *vātika kāsa*. The role of *yavānyādipeyā* are seen on *kaphadoṣa*, *anulomana* of *vātadoṣa* and *srotośodhana*, helping the obstructed *udānavāyu* to normalize and leading to *prakṛtagati* of *prāṇavāyu*, hence relieving the signs and symptoms of *kāsa*. *Kaṭu* and *tikta rasa* have local *kaphahara* action on the mucosa. This process explains the symptomatic relief from *kāsa*. The *laghuguṇa* does the *srotośodhanaby* its property of purveyance in to the minute channels therefore cleansing them. The *uṣṇavīrya* of

the drug helps in *kaphavātasamśamana* and *doṣavilayana*, *kaṭuvipāka* reduces *kleda* by its *lekhana* and *śodhana* property. *Pācana* followed by *dīpana* and *anulomana* process set rights the digestion and assimilation. Thus it can be concluded *yavānyādipeyā* can be used as safe, effective, and economically affordable 'Therapeutic Agent' in the management of *kāsa*.

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