

Clinical Research

Effect of *Pippalimula* on *Ama* w.s.r. to *Samavaya*

Anil D. Avhad, Rambabu Dwivedi

Department of Basic Principles, Institute for Post Graduate Teaching and Research in Ayurveda, Gujarat Ayurved University, Jamnagar, Gujarat, India

Access this article online

Website: www.ayujournal.org

DOI: 10.4103/0974-8520.141911

Quick Response Code:



Abstract

Background: *Shad Karanas* mentioned in Ayurveda are the means for attaining the state of *Dhatusamyata*. *Samavaya* is the sixth *Karana* among these and it provides the knowledge of relation between *Dravya*, *Guna* and *Karma*. This kind of knowledge becomes the basic tool in the field of diagnosis as well as in the selection of proper drug. **Aim:** To assess the *Samavaya* relation between *Ama* and its *Hetu* and *Lakshanas* along with Practical evaluation of *Samavaya* by using *Pippalimula* on *Ama*. **Materials and Methods:** The study comprising of total 23 patients of *Ama* and divided into two groups. *Pippalimula* tablet (each of 500 mg, 2 tablets four times daily) was administered in Group A ($n = 13$) while Group B ($n = 10$) was treated with placebo tablet (each of 500 mg, 2 tablets four times daily) for the duration of 10 days. **Results:** After the completion of treatment, all the parameters of Group A showed statistically highly significant results, whereas in Group B some parameters showed significant results and others were insignificant. **Conclusion:** The study specified the *Karanatva* of *Samavaya* as the *Laghu*, *Ruksha* and *Ushna Gunas* which were present *Samavayatvena* in *Pippalimula*, and were absent in placebo.

Key words: *Ama*, *Pippalimula*, *Samavaya*, *Shadkarana*

Introduction

In Ayurveda, “*Karana-Karya Siddhanta*” (cause-effect theory) is considered as one of the most important *Siddhanta* (principle) and for the practical approach *Shad Karanas* (six causative factors viz., *Samanya*, *Vishesha*, *Guna*, *Dravya*, *Karma* and *Samavaya*) are considered as *Karana* (cause) and *Dhatusamyata* (equilibrium of body elements) is accepted as *Karya* (effect).^[1] *Samavaya* (inherent relation) being the sixth *Karana* among these, also useful in the field of *Chikitsa* (treatment).^[2]

Samavaya is defined as the inseparable relation between *Dravya* (substance) and *Guna* (property).^[3] It is also considered as the inherent relationship between the *Karana* and *Karya*; due to which one understands “this is in that”.^[4] *Samavaya* is said to be present in five pairs viz., *Avayava-Avayavi* (whole and its parts), *Guna-Guni* (substance and its property), *Karma-Karmavan* (object and its motion), *Vyakti-Jati* (individual and its class) and *Vishesha-Nityadraya* (particularity and eternal substances).^[5]

In clinical practice while prescribing the medicine to the patient physician always keeps in mind that which properties

are going to remain permanently in the particular drug which is intended for use. In the diagnostic field also one has to depend upon the *Pratyatma Lakshanas* (cardinal symptoms) which are inseparably concerned with the particular disease. So here in both the context *Samavaya* is an unavoidable cause as it provides the knowledge of relation between *Dravya*, *Guna* and *Karma* (action).

Ama is a unique concept of Ayurveda and plays an important role in vitiation of *Dosha* and occurrence of diseases. *Ama* has the properties such as *Guru* (heavy), *Snigdha* (unctuous), *Picchila* (sticky), *Tantu* (forming threads), *Avipakva* (undigested), *Asamyukta* (uncombined), *Anekavarna* (different colours), *Durgandha* (foul smell) etc., which are considered as *Samavayatvena* (inherently) present in it.^[5,6] It has been selected here for the applied study considering the *Samavaya* relation between *Dravya* and *Guna* as well as between *Vyadhi* (disease) and its *Lakshanas* (symptoms). *Pippalimula* (roots of *Piper longum* Linn.) was chosen as a drug for the clinical study since it is a drug of choice among all the drugs having *Deepaniya* (appetizer) and *Pachaniya* (digestive) properties.^[7] It has mentioned in the classics that *Pippalimula* possesses *Laghu* (light), *Ushna* (hot) and *Ruksha* (dry) properties which are present in *Samavaya* relation.^[8]

Hence the clinical study was planned considering the hypothesis that *Ama* should be mitigated by the opposite *Gunas* like *Laghu*, *Ruksha* and *Ushna* which are *Samavayatvena* present in the drug *Pippalimula* while the drug placebo (rice flour) possessing the *Gunas* like *Guru*, *Sheeta* and *Snigdha* *Samavayatvena* should

Address for correspondence: Dr. Anil D. Avhad, Ph.D. Scholar, Department of Basic Principles, I.P.G.T. and R.A, Gujarat Ayurved University, Jamnagar - 361 008, Gujarat, India.
E-mail: Anilavhad4u@yahoo.com

not be able to relieve the symptoms of *Ama* (undigested food material).^[9] Hence, the present study was carried out with the aim to assess the *Samavaya* relation between *Ama* and its *Hetu* and *Lakshanas* along with Practical evaluation of *Samavaya* by using *Pippalimula* on *Ama*.

Materials and Methods

Patients having the classical signs and symptoms of “*Ama*” attaining the Out-Patient Department and In-Patient Department were selected without any bar of cast, religion, occupation and sex. The study was approved by Institutional Ethics Committee (No. PGT/7-A/Ethics/2010-11/1858; dated on 01/09/2010).

Criteria for selection

- Patients suffering from the state of *Ama*
- Patients of age between 20 and 60 years.

Criteria for exclusion

- Patients of age <20 years and >60 years
- Patients having the condition of “*Samshrishta Dosha*” (chronic stage)
- Patients having any major systemic disease
- Patients having the dominancy of “*Pitta Prakriti*”.

Grouping and sampling

Patients were randomly divided into two groups as:

Group A: Tablets (500 mg each) of *Pippalimula Churna* (*P. longum* root powder) has been provided

Group B: Tablets (500 mg each) of rice flour (placebo) has been provided [Table 1].

Investigations

Routine pathological tests such as blood, urine, stool etc., has been carried out to assess the actual status of the patients and to rule out any pathology.

Criteria for assessment

The result was assessed on relief of the signs and symptoms of the disease.^[10,11] The sign and symptoms were *Aruchi* (aversion), *Avipaka* (indigestion), *Udaragaurava* (heaviness of abdomen), *Kshudhanasha* (dyspepsia), *Tandra* (lassitude), *Hrillasa* (nausea), *Alasya* (idleness), *Gurugatrata* (heaviness in body), *Bahumutrata* (polyuria), *Malasamata* (sticky stool) and decrease in *Abhyavaharana* and *Jarana Shakti* (slowness of hunger and digestion). The patient’s sign and symptoms were noticed before and After treatment with scoring pattern depending upon their severities.^[12]

Table 1: Drug and posology

Details	Group A	Group B
Drug	<i>Pippalimula</i> (roots of <i>Piper longum</i> Linn.)	Placebo (rice flour)
Dose	Two tablets 4 times/day	Two tablets 4 times/day
Anupana	Luke warm water	Luke warm water
Time	<i>Pragbhakta</i> (before meal) and <i>Adhobhakta</i> (after meal)	<i>Pragbhakta</i> (before meal) and <i>Adhobhakta</i> (after meal)
Duration	10 days	10 days

Assessment of result

Overall percentage of improvement of each patient was calculated by the formula

$$\% \text{ change} = \frac{\text{Mean BT} - \text{Mean AT}}{\text{Mean BT}} \times 100$$

Paired *t*-test was carried out at each symptom individually in both groups, whereas unpaired *t*-test was applied to study the comparative results of both groups at the level of $P < 0.05$,

Scoring pattern of clinical features

<i>Aruchi</i> (anorexia)	
Never	0
Very few times	1
Frequently	2
Always	3
<i>Avipaka</i> (indigestion)	
No indigestion	0
Occasional indigestion once or twice a week	1
Occasional indigestion 3-4 times a week	2
Everyday	3
<i>Udaragaurava</i> (heaviness in the stomach)	
No	0
Rarely/less	1
Most of the times	2
Everyday	3
<i>Hrillasa</i> (nausea)	
Absent	0
Occurs 1-2 times/week	1
Occurs 3-5 times/week frequently	2
Present regularly	3
<i>Tandra</i> (drowsiness)	
Absent	0
Feeling sleepy after meals only	1
Feeling sleepy after meals and also at other time occasionally	2
Feeling sleepy throughout the day	3
<i>Alasya</i> (lassitude)	
Absent	0
Lassitude toward laborious work	1
Lassitude toward moderately laborious work	2
Lassitude toward easy/non-laborious work	3
<i>Gurugatrata</i> (heaviness of the body)	
No heaviness	0
Mild heaviness not hampering routine work	1
Moderate heaviness which hampers daily routine work	2
Severe heaviness causing distress to the person	3
<i>Bahumutrata</i> (excessive urination)	
Day (times)	Night (times)
5-6	0
7-8	1
9-10	2
>10	3

Abhyavaharana Shakti (power of ingestion)	
Quantity of food according to age, profession and season	
Sufficient quantity	0
25% less quantity	1
50% less quantity	2
Quantity less than 50%	3
Frequency	
More than 2 times with proper hunger	0
2 times with proper hunger	1
2 times without proper hunger	2
Once without proper hunger	3
Duration between two meals (h)	
5-6	0
6-8	1
8-10	2
More than 10	3
Intensity of hunger	
Proper on time	0
Moderate on time	1
Less on time	2
Less/no even after the proper time	3
Jarana Shakti (power of digestion)	
Vegotsarga (elimination of wastes)	
As usual <i>Swayameva Pravritti</i> (<i>Yatha Kala</i>)	0
Occasional irregular/alter (<i>Ayatha kala</i>)	1
Frequently irregular	2
Constipated	3
Laghuta (lightness of the body) (h)	
2-3	0
4-6	1
6-8	2
More than 8 h/absent	3
Utsaha (enthusiasm)	
Sufficient/enough	0
Not as much	1
Diminished	2
Absent	3
Udgara Shuddhi (pure belching)	
Regularly/mostly	0
Occasionally	1
Very few times/rarely	2
Absent	3
Malasamata (sticky, foul smelling, loose consistency of stool)	
No	0
Rarely/less	1
Frequently	2
Always/more	3

$P < 0.01$ and $P < 0.001$ levels. The obtained results were interpreted as:

Insignificant: $P > 0.05$, Significant: $P < 0.05$ or $P < 0.01$, Highly significant: $P < 0.001$.

Total effect of therapies

• Complete remission	100% relief
• Marked improvement	75-100% relief
• Moderate improvement	50-75% relief
• Mild improvement	25-50% relief
• Unchanged	0-25% relief

Observations

A total of 23 patients were registered in the present study out of which 13 patients were in Group A and 10 were in Group B.

In the present study, 100% patients were suffering from *Avipaka*, *Udaragaurava* and *Ksudhanasha* while *Aruchi* was present in 95.62% patients. Maximum 91.30% patients were having *Alasya* as associated complaint whereas *Tandra* was found present in 79.91% patients. 60.87% and 56.52% patients were suffering from *Gurugatrata* and *Hrillasa* respectively. It has been observed that 91.30% patients were having *Mandagni* while *Vishamagni* was found in 8.70% patients.

Madhyama and *Avara Abhyavaharana Shakti* was found in 69.56% and 26.09% patients respectively whereas 65.22% and 34.78% patients were having *Avara* and *Madhyama Jarana Shakti* respectively.

Irregular and *Picchila Malapravritti* were found in 69.57% and 52.17% patients respectively whereas 82.61% patients were having unsatisfactory evacuation of their bowel.

According to the data *Atiguru* and *Atiruksha Ahara* found in 69.57% and 43.48% patients whereas habit of *Adhyashana* (eating before the last meal is digested), *Vishamashana* (irregular eating) and *Atimatrashana* (over eating) was found in 47.83%, 43.48% and 39.13% patients respectively.

The data also showed that 52.17% patients were drinking water in more quantity while 65.22% patients were drinking excess water after consuming the food.

Divaswapa (sleep by day), *Vegavidharana* (suppression of natural urges) and *Chinta* (stress) were found as causative factors in 78.26%, 43.48% and 62.21% patients respectively.

Results

Effect of therapy in Group A

In the present study, maximum 94.44% relief was observed in *Avipaka* whereas *Kshudhanasha*, *Udaragaurava* and *Aruchi* were reduced by 83.73%, 82.85% and 76% respectively. Statistically all the parameters of chief complaints showed highly significant results ($P < 0.001$) [Table 2].

The data revealed that maximum 100% relief found in *Bahumutrata* followed by 91.67% in *Gurugatra*, 90.92% in *Tandra*, 88.23% in *Hrillasa* and 81.48% relief was observed in *Alasya*. Statistically *Alasya* ($P < 0.001$) and *Tandra* ($P < 0.001$) showed highly significant results while *Hrillasa* ($P < 0.01$) and *Gurugatrata* ($P < 0.01$) showed significant results. *Bahumutrata* showed insignificant result ($P > 0.05$) [Table 3].

Further in Group A *Malasamata* reduced by 85.26% whereas *Abhyavaharana Shakti* and *Jarana Shakti* increased by 83.64%

and 82.50% respectively. Statistically all the parameters showed highly significant results ($P < 0.001$) [Table 4].

Effect of therapy in Group B

In Group B maximum 46.83% relief found in *Avipaka* while *Aruchi*, *Udaragaurava* and *Kshudhanasha* were reduced by 38.09%, 37.50% and 24.64% respectively. Statistically *Udaragaurava* ($P < 0.001$) and *Kshudhanasha* ($P < 0.001$) showed highly significant result, whereas *Aruchi* ($P < 0.01$) and *Avipaka* ($P < 0.01$) showed significant results [Table 5].

In Group B the data reveals that maximum 47.09% relief observed in *Tandra* followed by 44.44% in *Hrillasa*, 37.50% in *Gurugatrata*, 23.52% in *Alasya* and 16.67% relief in *Bahumutrata* [Table 6].

Further *Jarana Shakti* and *Abhyavaharana Shakti* found increased by 27.71% and 27.38% respectively whereas *Malasamata* reduced by 33.33% [Table 7].

Comparative effect of therapy in both the groups

Comparatively Group A showed statistically highly significant results in *Avipaka* ($P < 0.001$), *Udaragaurava* ($P < 0.001$),

Kshudhanasha ($P < 0.001$), *Alasya* ($P < 0.001$) and *Tandra* ($P < 0.001$) whereas significant results in *Aruchi* ($P < 0.01$), *Hrillasa* ($P < 0.01$), *Gurugatrata* ($P < 0.01$) and *Bahumutrata* ($P < 0.01$) than Group B. In *Abhyavaharana Shakti*, *Jarana Shakti* and *Malasamata* also Group A showed statistically highly significant results compared with Group B ($P < 0.001$) [Tables 8 and 9].

Total effect of therapies

Maximum 100% patients showed marked relief in Group A whereas 80% patients in Group B showed mild improvement and 20% patients unchanged [Table 10].

Discussion

The cardinal symptoms of *Ama* like *Aruchi*, *Avipaka*, *Udaragaurava* and *Kshudhanasha* were found present in almost all the patients who show the presence of *Samavaya* relation between “*Ama*” and these symptoms. Further the presence of associated symptoms indicates that *Ama* is the base of all these symptoms. *Agnimandya* is the prior state for production

Table 2: Effect of Pippalimula on chief complaints in Group A

Chief complaints	n	Mean		% relief	SD±	SE±	t	P
		BT	AT					
<i>Aruchi</i>	12	1.923	0.462	76.00	0.660	0.183	7.982	<0.001
<i>Avipaka</i>	13	2.769	0.154	94.44	0.506	0.140	18.623	<0.001
<i>Udaragaurava</i>	13	2.692	0.462	82.85	0.599	0.166	13.424	<0.001
<i>Kshudhanasha</i>	13	2.227	0.385	83.73	0.303	0.084	21.947	<0.001

SD: Standard deviation, SE: Standard error, BT: Before treatment, AT: After treatment

Table 3: Effect of Pippalimula on associated complaints in Group A

Chief complaints	n	Mean		% relief	SD±	SE±	t	P
		BT	AT					
<i>Alasya</i>	12	2.077	0.385	81.48	0.751	0.208	8.124	<0.001
<i>Tandra</i>	9	1.692	0.154	90.92	1.127	0.312	4.924	<0.001
<i>Hrillasa</i>	7	1.308	0.154	88.23	1.144	0.317	3.638	<0.01
<i>Gurugatrata</i>	9	0.923	0.077	91.67	0.899	0.249	3.395	<0.01
<i>Bahumutrata</i>	3	0.154	0.000	100	0.376	0.104	1.477	NS

SD: Standard deviation, SE: Standard error, NS: Non significant, BT: Before treatment, AT: After treatment

Table 4: Effect of Pippalimula on Agni and Malasamata in Group A

Chief complaints	n	Mean		% relief	SD±	SE±	t	P
		BT	AT					
<i>Abhyavaharana Shakti</i>	13	8.462	1.385	83.64	1.115	0.309	22.881	<0.001
<i>Jarana Shakti</i>	13	9.231	1.615	82.50	1.446	0.401	18.994	<0.001
<i>Malasamata</i>	13	7.308	1.077	85.26	1.666	0.323	19.271	<0.001

SD: Standard deviation, SE: Standard error, BT: Before treatment, AT: After treatment

Table 5: Effect of placebo on chief complaints in Group B

Chief complaints	n	Mean		% relief	SD±	SE±	t	P
		BT	AT					
<i>Aruchi</i>	10	2.100	1.300	38.09	0.632	0.200	4.000	<0.01
<i>Avipaka</i>	10	2.400	1.300	46.83	0.876	0.277	3.973	<0.01
<i>Udaragaurava</i>	10	2.400	1.500	37.50	0.568	0.180	5.014	<0.001
<i>Kshudhanasha</i>	10	2.030	1.550	24.64	0.297	0.094	5.104	<0.001

SD: Standard deviation, SE: Standard error, BT: Before treatment, AT: After treatment

of Ama^[13] and in case of Vishamagni it is mentioned that sometimes it digests the heavy food and occasionally unable to digest proper or less food also and hence it leads to the production of Ama.^[14] Here Samavaya relation is applicable in between Agnimandya and Ama which are Karana and Karya respectively. In Ama condition presence of Agnimandya and Udaragaurava leads to aversion towards the food and one feels satisfied with lesser quantity of food which results into a reduction in Abhyavaharana Shakti.^[15] Further due to inadequate and feeble Agni the food consumed also not get properly digested, i.e. the Jarana Shakti also gets hampered. The properties of Ama like Guru, Picchila, Snigdha etc., reflects in the stool as Picchila (sticky), i.e. Sama Malapravritti and due to its sticky nature it adheres in Mahasrotasa making various difficulties in the bowel habits.

Atiguru Ahara qualitatively while Atimatrashana and Adhyashana quantitatively becomes load over Agni, hence are responsible for Agnimandya and Ama.^[16] Ajirashana and Vishamashana directly causes the vitiation of Agni up to the extent that even the Laghu Ahara is not digested properly and becomes Visharupa (Poisonous), i.e. Ama.^[17] Drinking excess amount of water causes trouble in the digestion process which ultimately causes Ama.^[18] Divasvapa leads to Kapha-Pitta Vriddhi due to which Agnimandya occurs or the food consumed doesn't digest properly causing Ama production.^[19] Habit of Vegavidharana leads to vitiation of Apana Vayu which in turn disturbs the function of Samana Vayu. Due to this the process of digestion gets hampered, ultimately leading to the production of Ama.^[20] Chinta is directly mentioned as the causative factor for the production of Ama.^[21] A person suffering from stress usually doesn't follow the Aharavidhividhana and consumes more or less food, without giving due concentration (Tanmana Bhunjita), which leads to indigestion and production of Ama.^[22] All these causative factors work as Karana for the production of Ama (Karya). Hence a Samavaya relation is established between these Karanas (Hetu) and Ama.

In Group A, due to the presence of Ushna, Laghu and Ruksha properties Samavayatvena in the drug Pippalimula,

it mitigates the Guru, Snigdha, Picchila properties of Ama. Hence all the chief and associated complaints got relieved. The Agnidipaka action of Pippalimula helped to increase the Abhyavaharana and Jarana Shakti. Further due to the Amapachaka action Malasamata got completely eradicated. In Group B, the absence of Ushna, Laghu, Ruksha properties in placebo makes it incapable to act on Ama. Hence, the Amapachana did not occur completely in this group. Some amount of results in Group B was due to the presence of luke warm water given as Anupana and also due to the general instructions of "Pathyapathya" (diet regimen) and "Nidanaparivarjana" (avoidance of causative factors) in both the groups.

All these results proved the Samavaya relation between Laghu, Ruksha, Ushna Guna and Pippalimula and further it also indicates that such kind of relation is absent in placebo.

Conclusion

Based on the above study concluded it can be concluded that directly or indirectly everything in this universe depends on Samavaya and hence its presence is inevitable in every concept of Ayurveda. Each and every Dravya in this universe possesses Guna and Karma Samavayatvena likewise Aushadha and its Gunakarma, Vyadhi and its Lakshana are related with each other by Samavaya. The relation of Pippalimula and Ushna, Ruksha, Laghu Guna is a type of Guna-Guni samavaya and similarly the relation between Ama and its properties like Guru, Snigdha, Picchila etc., also taken as Guna-Guni kind of Samavaya. Further, the relation of Ama and its symptoms like Aruchi, Avipaka and Udaragaurava etc., comes under the category of Karma-Karmavan Samavaya. On the basis of observations and results it is opined that, Pippalimula having Laghu, Ruksha and Ushna properties Samavayatvena in it, mitigated the symptoms of Ama; which proved the Samavaya relation between Dravya and Guna as well as between Vyadhi and its Lakshanas.

Table 6: Effect of Placebo on associated complaints in Group B

Chief complaints	n	Mean		% relief	SD±	SE±	t	P
		BT	AT					
Alasya	9	1.700	1.300	23.52	0.516	0.163	2.449	NS
Tandra	8	1.700	0.900	47.09	0.632	0.200	4.000	NS
Hrillasa	6	0.900	0.500	44.44	0.699	0.221	1.809	NS
Gurugatrata	5	0.800	0.500	37.50	0.483	0.153	1.964	NS
Bahumutrata	5	0.600	0.500	16.67	0.316	0.100	1.000	NS

SD: Standard deviation, SE: Standard error, NS: Non Significant, BT: Before treatment, AT: After treatment

Table 7: Effect of Placebo on Agni and Malasamata in Group B

Chief complaints	n	Mean		% relief	SD±	SE±	t	P
		BT	AT					
Abhyavaharana Shakti	10	8.400	6.100	27.38	1.418	0.448	5.129	<0.001
Jarana Shakti	10	8.300	6.000	27.71	1.337	0.423	5.438	<0.001
Malasamata	10	6.300	4.200	33.33	0.738	0.233	9.000	<0.001

SD: Standard deviation, SE: Standard error, BT: Before treatment, AT: After treatment

Table 8: Comparative effect of therapy on chief and associated complaints in both groups

Symptoms	df	Mean (Group)		SD	t	P
		A	B			
Aruchi	20	1.583	0.800	0.783	3.205	<0.05
Avipaka	21	2.165	1.100	1.515	5.227	<0.001
Udaragaurava	21	2.231	0.900	1.331	5.400	<0.001
Kshudhanasha	21	1.842	0.480	1.362	10.781	<0.001
Alasya	19	1.833	0.444	1.389	5.658	<0.001
Tandra	15	2.222	1.000	1.222	5.166	<0.001
Hrillasa	11	2.143	0.667	1.476	4.299	<0.01
Gurugatrata	10	1.571	0.600	0.971	3.073	<0.05
Bahumutrata	6	1.000	0.200	0.800	3.000	<0.05

SD: Standard deviation, df: difference

Table 9: Comparative effect of therapy on Agni and Malasamata in both groups

Symptoms	df	Mean (Group)		SD±	t	P
		A	B			
Abhyavaharana	21	7.077	2.300	4.777	9.056	<0.001
Jarana Shakti	21	7.615	2.300	5.315	9.025	<0.001
Malasamata	21	6.231	2.100	4.131	9.772	<0.001

SD: Standard deviation, df: difference

Table 10: Total effect of therapy

Category	Group (n (%))	
	A	B
Unchanged	0 (0)	2 (20)
Mild improvement	0 (0)	8 (80)
Moderate improvement	0 (0)	0 (0)
Marked improvement	13 (100)	0 (0)

References

1. Agnivesha, Charaka, Dridhabala, Charaka Samhita, Sutra Sthana, Deerghamjivitiya Adhyaya, 1/53, Ayurveda Deepika Commentry by Charapanidutta, Pt. Yadavaji Triamaji Acharya editor, reprint edition. Chaukhamba Surabharati Prakashana, Varanasi, 2009; 14.
2. Ibidem. Charaka Samhita, Sutra Sthana, Deerghamjivitiya Adhyaya, 1/29; 7.
3. Ibidem. Charaka Samhita, Sutra Sthana, Deerghamjivitiya Adhyaya, 1/50; 12.
4. Prashastadevacharya, Prashastapadabhashya, 7/2/26. Shri Mishra N. editor, revised edition. Chaukhamba Sanskrit Sansthan, Varanasi, 2007; 41.
5. Madhava, Vijayarakshita, Madhavanidana along with Madhukosha

- Commentry, Amavata Nidana, 25/1-5, reprint edition. Motilal Banarasidas, Varanasi, 2002; 424.
6. Vagbhata, Arunadatta, Ashtangahridaya, Sutra Sthana, Doshopakramaniya Adhyaya, 13/27, reprint edition. Chaukhamba Sanskrit Sansthan, Varanasi, 2009; 217.
7. Agnivesha, Charaka, Dridhabala, Charaka Samhita, Sutra Sthana, Yajjapurushiya Adhyaya, 25/40, Ayurveda Deepika Commentry by Charapanidutta, Pt. Yadavaji Triamaji Acharya editor, reprint edition. Chaukhamba Surabharati Prakashana, Varanasi, 2009; 131.
8. Bhavamishra, Bhavaprakasha, Commentary by Chunekar KC, Haritakyadi Varga, Pandey GS editor, revised edition. Chaukhamba Bharati Academy, Varanasi, 2010; 19.
9. Agnivesha, Charaka, Dridhabala, Charaka Samhita, Sutra Sthana, Annapanavidhi Adhyaya, 27/13-15, Ayurveda Deepika Commentry by Charapanidutta, Pt. Yadavaji Triamaji Acharya editor, reprint edition. Chaukhamba Surabharati Prakashana, Varanasi, 2009; 154.
10. Sharma G, Dwivedi RR. A clinical and comparative study of Ama and free radical theory w.s.r. to Amavata, M.D. Thesis. Jamnagar: Dept. of B.P., IPGT and RA, Gujarat Ayurved University; 2001.
11. Vaja M, Dwivedi RR. A critical study of Trividha-Kuksheeya Vimana w.s.r. to Amotpatti and its management, M.D. Thesis. Jamnagar: Dept. of B.P., IPGT and RA, Gujarat Ayurved University; 2005.
12. Baghel MS, Rajgopala S. Guidelines for Clinical Research Methodology in Ayurveda: A report submitted to WHO. Jamnagar: IPGT and RA, Gujarat Ayurved University, 2011.
13. Agnivesha, Charaka, Dridhabala, Charaka Samhita, Chikitsa Sthana, Grahaniidoshachikitsa Adhyaya, 15/44, Ayurveda Deepika Commentry by Charapanidutta, Pt. Yadavaji Triamaji Acharya editor, reprint edition. Chaukhamba Surabharati Prakashana, Varanasi, 2009; 517.
14. Sushruta, Sushruta Samhita, Sutra Sthana, Aturopakramaniya Adhyaya, 35/24, Aacharya VJ editor, reprint edition. Chaukhamba Surabharati Prakashana, Varanasi, 2008; 154.
15. Agnivesha, Charaka, Dridhabala, Charaka Samhita, Chikitsa Sthana, Grahaniidoshachikitsa Adhyaya, 15/46, Ayurveda Deepika Commentry by Charapanidutta, Pt. Yadavaji Triamaji Acharya editor, reprint edition. Chaukhamba Surabharati Prakashana, Varanasi, 2009; 517.
16. Ibidem. Charaka Samhita, Sutra Sthana, Yajjapurushiya Adhyaya, 25/40; 132.
17. Ibidem. Charaka Samhita, Chikitsa Sthana, Grahaniidoshachikitsa Adhyaya, 15/42; 517.
18. Ibidem. Charaka Samhita, Sutra Sthana, Annapanavidhi Adhyaya, 46/500; 251.
19. Vriddha Vagbhata, Ashtangsamgraha, Sutra Sthana, Viruddhanavinjananiya Adhyaya, 9/35, Sharma S editor, 2nd edition. Chaukhamba Sanskrit Series Office, Varanasi, 2008; 92.
20. Ibidem. Ashtangsamgraha, Sutra Sthana, Roganutpadaniya Adhyaya, 5/3; 31.
21. Agnivesha, Charaka, Dridhabala, Charaka Samhita, Vimana Sthana, Trividhakukshivimana Adhyaya, 2/9, Ayurveda Deepika Commentry by Charapanidutta, Pt. Yadavaji Triamaji Acharya editor, reprint edition. Chaukhamba Surabharati Prakashana, Varanasi, 2009; 238.
22. Ibidem. Charaka Samhita, Vimana Sthana, Rasavimana Adhyaya, 1/24/9; 237.

How to cite this article: Avhad AD, Dwivedi R. Effect of Pippalimula on Ama w.s.r. to Samavaya. Ayu 2014;35:35-41.

Source of Support: Nil. **Conflict of Interest:** None declared.

हिन्दी सारांश

समवाय के दृष्टिकोण से पिप्पलीमूल का आम पर प्रभाव

अनिल डी. आव्हाड, रामबाबू द्विवेदी

धातुसाम्य स्थापित करना ही आयुर्वेद का मुख्य कार्य है, जिसके लिए षड्कारणों की आवश्यकता होती है। इनमें से समवाय छठा कारण है और वह द्रव्य, गुण और कर्म के संबंधों का ज्ञान कराता है। यह जानकारी व्याधिपरीक्षण एवं द्रव्यनिर्धारण के क्षेत्र में महत्वपूर्ण तथा मूलभूत सिद्ध होती है। चिकित्सीय अध्ययन में आम के २३ रुग्णों को २ वर्गों में विभाजित किया गया। वर्ग 'अ' में पिप्पलीमूल वटी तथा वर्ग 'ब' में प्लेसिबो वटी दस दिनों के लिए प्रयुक्त की गई। वर्ग 'अ' में सभी मापदण्डों पर महत्तम परिणाम प्राप्त हुए तथा वर्ग 'ब' में कुछ मापदण्डों पर साधारण तथा कुछ मापदण्डों पर अच्छे परिणाम नहीं मिले। संपूर्ण अध्ययन समवाय की कारणता को दर्शाता है क्योंकि पिप्पलीमूल में लघु, रुक्ष एवं उष्ण गुण समवाय संबंध से थे और प्लेसिबो में यह गुण अनुपस्थित थे।