



## Research Article

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### AMALAKI (*Emblca officinalis*) AS ADJUVANT FOR REDUCING DOSHIC IMBALANCE INDUCED BY CURD: A CASE SERIES

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#### ABSTRACT

Curd is prohibited indifferent ways with various rationales. Based on the review of available literature in Ayurveda, pilot case studies have been conducted in villages around Hassan district, Karnataka to ascertain the effect of curd taken without rules. Out of 436 subjects, 79% presented increased symptoms of *Kapha* after the intake of curd at night, which re-established the concept “*Na Naktam Dadhi Bhunjeeta*” means Curd is prohibited at night time. Based on this primary data of survey, the subjects with increased symptoms of *Kapha* and *Pitta* were advised to consume 6g of deseeded *Amalaki* (*Emblca officinalis*) powder g with curd at night as per their habit of consumption. The subjects were interviewed after 30 days. All the twelve *Kapha* and six *Pitta* increased symptoms were reduced significantly (p=.001). After discontinuity of adjuvant *Amalaki*, the symptoms reappeared with the mean of 4.76 days. This ascertains the benefit of *Amalaki* as adjuvant to the individual who consumed curd as a habit for long term.

**Keywords:** Ayurveda, Curd, Adjuvant, Night Time, *Amalaki*, *Dhatu Samya ha Vruddhi*.

#### INTRODUCTION

The classical texts of Ayurveda, prohibits Curd at night time without addition of adjuvant like honey, Ghee, Powder of *Amalaki* (Indian Goose Berry)<sup>1</sup>. Consumption of curd alone is specified as cause for the ailments like skin disease, jaundice, herpes and bleeding disorders.<sup>1</sup>This study was aimed to elicit the ethnicity of dietary habit in a particular demographical area, based on conceptual background. Here the efficacy of *Amalaki* powder (*Emblca officinalis*) in reducing the symptoms of increased *Dosha* (bodily humour) and variation in the equilibrium of bodily tissue in the subjects who are habituated for the curd consumption during night time was assessed.

#### MATERIALS AND METHOD

The study design was open label randomized cross sectional double arm clinical trial. It was conducted in two Phases after

receiving Institution Ethics Committee approval (Ref. No. SDMCAH/IEC/04/2010-11). Using convenient and willing to participate in the study were administered with the self-structured questionnaire including the increased symptoms of *Kapha* and *Pitta Dosha* and equilibrium state of *Dhatu* (bodily tissues)<sup>2,3</sup>

Acharya Gangadhara has commented on the symptom of *Dhatu Samya* as *Vikara Upashamana* (reduction in symptoms of diseases) as *Yatanopashamana* (reduction in discomfort). Here *Dhatu* word can be used for *Dosha*, *Dhatu* (tissues), *Mala* (waste products) and *Srotas* (Channels) but only when they are in normalcy<sup>4</sup>. Curd is enlisted as cause for increase *Kapha* and *Pitta*. Hence the study was designed to analyze the effect of *Amalaki* to achieve *Dhatu Samya* and normalizing the *Kapha* and *Pitta*.

#### *Kapha* and *Pitta Vrudhi* (increased symptoms)

- *Agnisadana*– diminished Agni
- *Praseka*- Excessive Salivation
- *Alasya* – Lazy
- *Gourava*- Heaviness
- *Shvasa*- Breathing Difficulty
- *Kandu*- Itching
- *KanteKapha*-Feeling of *Kapha* in throat
- *Kamala*-Jaundice
- *Kasa*- cough
- *Atinidrata*- Excessive sleep
- *Brama*-Giddiness
- *Daha*-Burning Sensation
- *Ksut*- increased hunger
- *Sotha* – Inflammatory Swelling
- *Trushna*-Thirst
- *Alpanidrata*-Less Sleep

**Dhatu Samya Lakshana** (Symptoms of equilibrium state of Dhatu)

- Rugupashamanam*- alleviation of pain
- Svara Yoga*- Normal Voice
- Varna yoga*-Normal Complexion
- Samyak jarana*– Proper digestion
- Vaikarika Svapna Adarshana* – absence of bad dreams indicating signs of Arista
- Sukena Pratibhodnana*- Satisfied sleep
- Mana, Bhuddhi & Indriya Avyapatti*– Disease free state of Mind, intellect and sensory organ
- Shareeropacaya*-Nourishment of body
- Abhyavaharana Abhilasha*-desire for food
- Ruci aharakale* – appetite
- Nidra labha*– sleep at appropriate time
- Vata mukti* – Proper elimination of flatus
- Puresha Mukti* – Proper elimination of stool
- Mutra Mukti* – Proper elimination of Urine
- Retasam Mukti* – Proper elimination of Semen

The subjects presented with minimum of six among twelve *Kapha* increased symptoms(50%)and three symptoms(50%) out of six *Pitta* increased were included in the study. Based on the observations in Pilot study the symptom of *Kantopalepa*– subjective feeling of constriction in throat was included even though not mentioned in text as increased symptom of *Kapha*. Similarly the increased symptoms of *Pitta* like *Peeta Vit, Mutra,*

*Netra* (yellow discoloration of stool, urine and eyes) was not included as these symptoms were not found.

Closed ended questionnaire with three graded Likert Scale i.e. Severe 3, Moderate 2 and Nil1 was prepared based on the pilot study. The Height, Weight and Body Mass Index (BMI) of all the subjects were assessed.

Based on primary data collected, subjects who consumed curd during night and having the symptoms of increased *Kapha* and *Pitta* were grouped into A & B. Deseeded powder of Amalaki in the dosage 6g and 6g of Starch powder as Placebowith curd at night time was administered for 30 days respectively to the Group A and B. After the study period of 15 days subjects were interviewed for the presence or absence of the symptoms.

### OBSERVATION AND RESULT

In this study N= 836, among them439 subjects (52.5%) were of occasional curd consumers and 343 subjects (41%) were daily curd consumers. Majority 42.4%(n=332) were consuming curd daily at noon, 28.2% (n=221) at night and 23.0% (n=180) at morning. The subjects (49.9 %) who were consuming curd at night showed symptoms of increased *Kapha*. (Table 1). 10.64% of occasional and 9.14% of daily consumers was observed with symptoms of increased *Pitta* (Table 2)

**Table 1: Distribution of 782 volunteers based on *Kapha Vruddhi Lakshana***

Symptoms	Occasional curd consumer	%	Daily curd consumer	%
<i>Gouvrava</i>	153	26.2	122	26.4
<i>Kapha in throat</i>	88	16.9	64	15.8
<i>Kandu</i>	30	6.9	31	7.7
<i>Kasa</i>	84	19.4	67	19.8
<i>Pratishyaya</i>	107	24.8	63	18.5
<i>Alasya</i>	129	29.9	110	32.4
<i>Shvasakrucra</i>	46	10.6	40	11.8
<i>Alpajeerna</i>	33	7.7	29	8.4
<i>Atinidra</i>	157	36.3	120	34.3

**Table 2: Distribution of 782 volunteers based on *Pitta Vruddhi Lakshana***

<i>Lakshana</i>	Occasional curd consumer		Daily curd consumer	
	No	%	No	%
<i>Trushna</i>	52	12.0	32	8.7
<i>Atikshuda</i>	44	10.1	38	11.1
<i>Uradaha</i>	36	8.3	32	8.7
<i>Daha</i>	40	9.2	23	6.7
<i>Brama</i>	59	13.6	36	10.5

In Group A (Subjects with *Amalaki* Group)the components of equilibrium of tissues like complexion, nourishment, desire for food, appetite, digestion and proper elimination of flatus was significantly improved with p value < .001, whereas in Group B (Placebo Group)desire for food, appetite are found significant at P value <0.001, 0.14 respectively after intervention.

In group A all the symptoms of increased *Kapha* significantly reduced at p value <.001, Excessive sleep and decreased digestive capacity found significantly reduced at p value < .05 on addition of deseeded *Amalaki* powder along with curd. The symptoms of increased *Pitta* were reduced significantly in Group A at p value < .001 and in Group B except tiredness, giddiness and decreased sleep there was no significant improvement in other parameters(Table 3, 4).

Table 3: Distribution of 782 volunteers based on *Dhatu Samya Lakshana*

Group A- Amalaki						Group B – Observation				
Parameter	-ve rank	+ve rank	Ties	Sig	Remark	-ve rank	+ve rank	Ties	Sig	Remark
<i>Varna Yoga</i>	0	14	11	< .001	HS	8	14	3	.157	NS
<i>Shareeropacaya</i>	0	11	14	< .001	HS	9	10	6	.180	NS
<i>Abhyavaharana abhilasha</i>	0	13	12	< .001	HS	1	15	10	< .001	HS
<i>Ruci Ahara Kale</i>	0	10	15	< .001	HS	1	15	10	< .001	HS
<i>Samyak Jarana</i>	0	16	9	< .001	HS	0	10	15	.083	NS
<i>Vata mukti</i>	0	10	15	< .001	HS	2	0	23	.157	NS
<i>Mutra mukti</i>	0	1	24	.317	NS	0	5	21	< .05	S
<i>Pureesha</i>	3	15	7	< .05	S	5	15	6	.100	NS
<i>Picchila</i>	5	12	8	.071	NS	3	18	5	.083	NS
<i>Durganda</i>	3	11	11	.070	NS	3	6	17	.317	NS
<i>Guru</i>	3	8	14	.235	NS	3	6	17	.854	NS
<i>Mana</i>	2	6	17	.366	NS	8	16	2	.058	NS
<i>Buddhi Grahana</i>	2	4	19	.414	NS	0	0	26	1.00	NS
<i>Buddhi Dharana</i>	2	4	19	.655	NS	0	0	26	1.00	NS
<i>Buddhi Smarana</i>	0	0	25	1.00	NS	0	0	26	1.00	NS
<i>Indriya Vyapatti</i>	0	7	18	< .05	S	0	8	18	1.00	NS
<i>Nidralaba</i>	0	14	11	< .001	HS	2	9	15	< .05	S
<i>Vaikarika Swapna</i>	1	14	11	< .001	HS	8	0	18	< .001	HS
<i>Sukhena Pratibhodana</i>	0	14	11	< .001	HS	0	6	20	< .05	S
<i>Ruci</i>	0	6	19	< .05	S	0	0	26	1.00	NS

Table 4: Distribution of 782 volunteers based on *Kapha and Pitta* increased symptoms

Group A- Amalaki						Group B – Observation				
Parameter	-ve rank	+ve rank	Ties	Sig	Remark	-ve rank	+ve rank	Ties	Sig	Remark
<i>Kante Kapha</i>	23	0	2	< .001	HS	17	0	9	< .001	HS
<i>Tandra</i>	21	0	4	< .001	HS	8	2	16	< .05	S
<i>Atinidra</i>	14	3	8	< .05	S	1	4	2	.180	NS
<i>Alasya</i>	21	0	4	< .001	HS	0	0	26	1.00	NS
<i>Praseka</i>	22	0	1	< .001	HS	22	0	4	< .001	HS
<i>Gourava</i>	18	0	7	< .001	HS	0	9	17	< .001	HS
<i>Agni mandhya</i>	15	1	9	.036	S	8	0	18	< .001	HS
<i>Pratishyaya</i>	19	1	5	< .001	HS	12	9	5	.513	NS
<i>Kasa</i>	20	0	5	< .001	HS	15	2	9	< .001	HS
<i>Shvasa</i>	13	0	12	< .001	HS	13	0	13	< .001	HS
<i>Ushnanga</i>	10	0	15	< .001	HS	0	13	13	< .001	HS
<i>Alpanidra</i>	7	0	18	< .05	S	2	0	24	.157	NS
<i>Trushna</i>	16	0	9	< .001	HS	0	10	16	< .001	HS
<i>Kshuda</i>	15	0	10	< .001	HS	2	7	17	.096	NS
<i>Daha</i>	12	1	12	< .05	S	15	5	6	< .001	HS
<i>Shrama</i>	24	0	1	< .001	HS	5	6	15	.776	NS
<i>Brama</i>	17	0	8	< .001	HS	10	8	8	.637	NS
<i>Kandu</i>	15	0	10	< .001	HS	2	6	18	.157	NS
<i>Kusta</i>	8	0	17	< .001	HS	0	0	26	1.00	NS
<i>Shotha</i>	2	0	23	.157	NS	6	0	20	< .05	S

## DISCUSSION

Curd is restricted during night time as it may increase *Kapha* and *Pitta Dosha*. Hence subjects who consumed curd at night time were assessed for increased symptoms of *Kapha* and *Pitta*. Among adjuvants mentioned in texts, *Amalaki* is best among *Phala Varg*<sup>5,6</sup>, and considered as best rejuvenate substance. It also possesses action of reducing all three *Dosha*, consists all five tastes except salt, cold in potency and sour post digestion taste. Subjects who satisfy the inclusion criteria, deseeded powder of *Amalaki* was advised to take along with curd.

In the context of rules of consumption of curd there is no specification for dose and forms of *Amalaki* to be used as adjuvant other than the statement *Amalakaihi Vina-* without *Amalaki*. In “*Anagatavekshana Adhyaya*” of *Sushruta Samhita* *Amalaki* is considered as *Nitya Sevana Dravya* – the substance which should be consumed regularly and method advised is before, middle and at the end of food. This unique method of consumption may be due to order of *Rasa* to be consumed as per

rules for consumption of food- one should consume *Shadrasa daily-* “*Nityam Sarvarasa Abhyasam-* sweet, sour, salt, spice, bitter and astringent”<sup>7</sup>. *Amalaki* is endowed with six tastes devoid of salt taste. This supports the above concept.

Thus it might be due to usage of *Amalaki* in the form of food and not as medicine. Therefore in this study daily dosage of 6 g was recommended as in Ayurveda Formulary of India(AFI) in powder form for the subjects in Group A.

Between the groups significant improvement was observed in the following criteria’s -Normal Complexion, Nourishment of body, desire for food, Proper digestion, Proper elimination of flatus, sticky stool, pleasantness of mind, grasping and retention power, sleep at appropriate time, absence of bad dreams, satisfaction of sleep was found to be highly significant at p value < .001. Appetite and proper elimination of urine were found significant at p value < 0.05

*Amalaki* being drug with rejuvenation property predominated with *Apmahabhuta* (Predominance of water) significant improvement of complexion may be observed in present study.

Group of sour taste is known for its proper expulsion of flatus and increasing digestion properties. Hence there might be improvement observed in desire for food and proper digestion. Both curd and *Amalaki* enhances the metabolic process and produces the *Rasayana* (rejuvenation) effect. Also the *Sara* and increasing digestion properties of *Amalaki* may be reason for significant reduction of both sticky and hard stool. The sour taste being *Hrudya*, significant improved quality of sleep might be observed.

The symptoms of *Dhatu Samya* like desire for food, appetite, timely sleep and absence of bad dreams were same in both the groups. Hence all these cannot be attributed to benefit of *Amalaki* only.

The increased symptoms of *Kapha* like feeling of mucus coating at throat, laziness, excessive salivation, decreased digestive fire, running nose, cough, heaviness, drowsy and excessive sleep were reduced significantly at p value < .001. Among increased symptoms of *Pitta* increased body heat, thirst, hunger, burning sensation, tiredness and giddiness was reduced significantly at p value < .001 and decreased sleep, subjective feeling of puffiness of face and itching at p value < .05.

As *Amalaki* is having properties reducing three *Dosha* it overcomes the increased symptoms of *Kapha* and *Pitta*. Among all the symptoms, breathlessness and skin diseases like eczema were not reduced even after intervention. It was found during survey that curd was acting as triggering factor of both the above symptoms. As duration and dosage was minimum the effect of *Amalaki* in reversing the state of disease was not observed. All the 12 increased symptoms of *Kapha* and six *Pitta* increased symptoms were reduced significantly (p=.001) in group A (*Amalaki*). In 16 parameters in group B when compared to group A, ties were found. Hence reductions of symptoms are found significant in *Amalaki* Group.

However after completion of course of intervention, reappearance of symptoms was seen in the mean of 4.76 days (Maximum of 7 days and Minimum of 2 days). After

discontinuation of *Amalaki* due to influence of night (*Kala Vashat*– Influence of time) and nature of curd, symptoms reappeared.

## CONCLUSION

The twelve *Kapha* and six *Pitta* increased symptoms were reduced significantly after addition of *Amalaki* powder. With the mean of 4.76 days, symptoms reappeared on discontinuation of adjuvant *Amalaki*. This ascertains the usefulness of *Amalaki* as adjuvant to curd as habit.

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