

**A CLINICAL STUDY ON EFFICACY OF TILAAMALAKAADI  
RASAYANA IN HEALTHY INDIVIDUALS****\*<sup>1</sup>Dr. Renu Khayamali, <sup>2</sup>Dr. Yogeesha Acharya and <sup>3</sup>Dr. Sandesh Kumar**<sup>1</sup>P.G. Scholar, <sup>2</sup>Asso. Professor, <sup>3</sup>Assistant ProfessorDepartment of PG Studies in Swasthavritta, Sri Dharmasthala Manjunatheshwara College of  
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**\*Corresponding Author****Dr. Renu Khayamali**P.G. Scholar, Department  
of PG Studies in  
Swasthavritta, Sri  
Dharmasthala  
Manjunatheshwara College  
of Ayurveda, Kuthpady,  
Udupi, India.**ABSTRACT**

Ayurveda, the ancient Indian system of holistic medicine, has two main objectives i.e. to prevent and promote health and management and cure of diseases. For the fulfillment of the very first aim i.e. swasthasya swastha rakshana, the concept of swasthavritta have been described. In swasthavritta all the vrittis which should be followed for maintenance of swastha have been described, which include following Dinacharya, Ratricharya, Rutucharya, Rasayana administration, e.t.c. Rasayana is one of the unique concept in Ayurveda, which have been told to benefit the body and mind, maintain harmony of body, mind and soul and improves quality of life. To assess these ayusthapana and vayasthapana quality of rasayana dravya the present study of “clinical study on efficacy of Tilaamalakaadi Rasayana on swastha” was conducted. For the study 40 apparently healthy individuals were

selected and randomly divided into group A and B. Group A was administered with the trial drug i.e. tilaamalakaadi granules where in Group B sugar granules was administered for 45 days. Assessment was done based on objective, subjective parameters and WHOQOL-BREF questionnaire. Both groups showed improvements in subjective and objective parameters, when compared Group A showed better improvements than Group B in all the parameters of the assessment. Thus, Tilaamalakaadi Rasayana can be administered in healthy individual for the health promotion.

**KEYWORDS:** Rasayana, tilaamalakaadi, Swastha.

## INTRODUCTION

Ayurveda, the science of life is a holistic system of medicine, considered to be the most ancient system of medicine that uses a constitutional model for fulfilling its aim of maintaining and promoting health of healthy and curing disease of diseased person.<sup>[1]</sup> It deals with all aspects of life in relation to health, promotion of health, prevention of disease, treatment of disease and palliative cure of incurable disease. It is preventive, promotive and curative system of medicine and gives importance to the involvement of the patient's well being. It gives equal importance to maintenance of health and prevention of disease as that of treatment of diseases. Various unique concepts are described in classics, which will promote health and prevent disease. Rasayana administration is one of them. The one which will increase and promote the circulation of the vital essence of life in the body is rasayana.<sup>[2]</sup> Rasayana can be administered in healthy as well as the diseased persons, in all ages and in all level of prevention. Various rasayana formulation has been described in ayurvedic text with their effect and mode of using. Tilaamalakaadi Rasayana.<sup>[3]</sup> is one of the formulation. If one takes this rasayana daily, it will have vayasthapana qualities.

## OBJECTIVES

- To evaluate change in subjective and objective parameters taken for assessment.
- To evaluate the effect on quality of life by use of Tilaamalakaadi Rasayana.
- To analyse the results obtained from the study.

## MATERIALS AND METHOD

The study was initiated after obtaining the institute human ethic committee's permission (IEC: Ref. No. SDMCAU/ACA-49/ECA26/15-16, Date 23/03/2016). The drug compound was procured from SDM Pharmacy, Udupi.

### Source of Data

The current study was carried out to evaluate health promotive effect of tilaamalakaadi as a Rasayana in healthy individuals by taking 40 subjects over a period of 45 days and follow up of one month.

### Subjects and methods

Apparently healthy voluntary individuals were selected for this study irrespective of sex, caste and socio economic status. The screening for the apparent healthy status of the volunteer was done by a apparent health assessment questionnaire.

**Criteria for selection of volunteer****Inclusion criteria**

1. Age group between 16 to 30 years irrespective of sex, religion, socio-economic status and food habits.
2. Apparently healthy volunteer subjects interested and willing to take rasayana.

**Exclusion criteria**

Age group below 16 yrs and above 30 yrs (as we are taking apparent healthy all individuals with any disease were excluded).

**Study design**

The present study was a single blind controlled comparative study with pre and post test design.

**Intervention**

The included subjects were randomly divided under group A and group B. All members were given two haritaki tablets before sleep for kosta suddhi with hot water for 3 days.

Group A: 20 subjects were administered with 12 grams of tilaamalakaadi rasayana granules for 45 days in empty stomach with 100ml water early in the morning.

Group B: 20 subjects were administered with 6gm of sugar for 45 days in empty stomach with 100 ml of water early in the morning and kept as control group. ( Here Rational behind using sugar as control is to nullify the effect of sugar used in formation of tilaamalakaadi granules).

**Duration of the study:** 45 days for both groups.

**Follow up:** 1 month.

**Assessment criteria**

Assessment of study was done based on the subjective and objective parameters.

**Subjective parameters** – The beneficiary attributes of Rasayana was evaluated in terms of changes in ‘Arogya Lakshana’.<sup>[4]</sup> The signs and symptoms of attributes of arogya lakashana were graded for assessment with self made proforma excluding Varna and Ayu. The other subjective parameter for the study was WHO Quality of life assessment.<sup>[5]</sup>

**The Arogya lakshana were graded as follows**

**Annaabhilasha(Desire For Food)**

- Grade 0- Timely manifestation of hunger
- Grade 1- Occasional loss of interest in food intake
- Grade 2- Disinterest to take food always

**Bhuktasya Paripaka ( Easy Digestion of Food)**

- Grade 0- Easy digestion of food
- Grade 1- Occasional disturbance in digestion
- Grade2- Always feel indigestion

**Srustavinmootratwa (Excretion of Faeces and Urine)**

- Grade 0-Normal (routine without difficulty)
- Grade 1- Occasional disturbances
- Grade 2- Untimely and disturbed

**Shareerashya lamghavam (lightness of the body)**

- Grade 0- Feeling lightness and enthusiastic
- Grade 1- Occasional disturbances
- Grade 2- Feels heaviness and laziness

**Suprasannendriyatwa (lucidity of Indriyas)**

- Grade 0- Indriyas are well functioning
- Grade 1- Occasional disturbances
- Grade 2-Aways disturbance in lucidity of Indriyas

**Sukhaswapnaprabodhanam (Comfortable sleep and awakening)**

- Grade 0- Normal and comfortable sleep and awakening
- Grade 1- Occasional disturbance
- Grade 2- Always disturbed

**Bala Labha (Attainment Of Strength)**

- Grade 0- Feels healthy and strong
- Grade 1- Occasional fluctuation
- Grade 2- Always tired and disturbed

**Soumanasya (Happiness)**

- Grade 0- Feels happiness and cheerful
- Grade 1- Occasional fluctuation
- Grade 2- Always depressed and disturbed

For Quality of life assessment WHOQOL BREF Questionnaire was used.

**Objective parameters:** Body weight (kg), BMI, Haemoglobin %, Serum protein, Serum albumin and Serum globulin.

**Statistical methods**

Statistical analysis was done using Statistical package for social science (SPSS) VER. 20. Completed 40 apparently healthy individuals were taken for statistical analysis. Parametric test used were **paired** (within the group) and **unpaired-t test** (between the groups) and Non-Parametric test used were **Wilcoxon signed rank test** ( within the groups) and **Mann-Whitney test** (between the groups). The obtained results were interpreted in the statistical terms as: Non-significant(NS-  $p > 0.05$ ), Significant (  $S- P < 0.05$ ), Highly Significant (  $HS-P < 0.001$ ).

**OBSERVATION AND RESULT****Demographic Data**

The demographic result of the study are shown in Table no 1.

**Table 1: Showing Demographic Data.**

Observations	Maximum Incidence	Percentage (%)
Age	18-21yrs	45
Sex	Female	82.5
Socioeconomic Status	Middle class	100
Diet	Vegetarian	62.5
Vyaayaama	Occasional	50
Nidraa	Less than 10 hr	97.5
Diwaswapna	Irregular	67.5
Prakriti	Pittakaphaja	50
Saara	Madhyama	95
Samhanana	Madhyama	85
Pramaana	Madhyama	72.5
Saatmya	Madhyama	62.5
Satva	Madhyama	82.5
Vyayama shakti	Madhyama	62.5
Abhyavarana Shakti	Pravara	50

Jarana Shakti	Pravara	52.5
Vayah	Madhyama	100

## RESULTS

### Objective Parameters

**Table 2: Showing Effect of Treatment on objective Parameters.**

Haemoglobin %	Group	Data	Values				Within Group		Comparison	
			Mean	± SD	± SEM	Difference	T Value	P Value	T Value	P Value
	A	BT	11.83	2.08	0.46	0.27	0.591	0.562	-0.582	0.564
		AT	12.11							
	B	BT	12.69	0.54	0.12	0.005	-0.041	0.968		
		AT	12.69							
Serum Protein	A	BT	6.76	0.41	0.092	0.50	-5.478	0.00	3.040	0.004
		AT	7.27							
	B	BT	6.81	0.34	0.07	0.14	-1.820	0.085		
		AT	6.95							
Serum Albumin	A	BT	3.90	0.31	0.07	0.18	-2.640	0.016	0.826	0.414
		AT	4.08							
	B	BT	3.80	0.40	0.09	0.09	-0.987	0.336		
		AT	3.89							
Serum Globulin	A	BT	2.85	0.31	0.07	0.32	-4.551	0.00	1.731	0.091
		AT	3.18							
	B	BT	2.97	0.33	0.07	0.14	-1.919	0.070		
		AT	3.11							
Weight	A	BT	51.75	0.83	0.18	0.80	-4.292	0.00	1.391	0.172
		AT	52.55							
	B	BT	53.15	1.18	0.26	0.35	-1.324	0.201		
		AT	53.50							
BMI	A	BT	20.08	0.38	0.08	0.23	-2.706	0.014	1.453	0.155
		AT	20.31							
	B	BT	20.36	0.41	0.09	0.048	-0.515	0.612		
		AT	20.40							

#### 1. Effect on Hb%

**In Group A:** The mean score before treatment was 11.83 and after treatment was 12.11 showing a mean difference of 0.27. Group A shows 2.32% increase in Hb% which is statistically non-significant with p value 0.562.

**In Group B:** The mean score before treatment was 12.69 and mean score after treatment was 12.695 showing a mean difference of 0.005. Group B shows 0.039% decrease in Hb% which is statistically insignificant at p value (0.968).

**Between the Group:** The comparative Effect on Hb% between the two groups is statistically insignificant at p value =0.564. Group A showed better results when compared to Group B with the mean increase of 0.27gm%.

## 2. Effect on Serum Protein

**In Group A:** The mean score before treatment was 6.76 and after treatment was 7.27 showing a mean difference of 0.50. Group A shows 7.46% increase in Serum Protein which is statistically Highly significant at p value (0.00).

**In Group B:** The mean score before treatment was 6.81 and mean score after treatment was 6.95 showing a mean difference of 0.14. Group B shows 2.054% increase in Serum Protein which is statistically significant at p value (0.085).

**Between the Group:** The comparative Effect on Serum Proteins between the two groups is statistically significant at p 0.004. Group A showed better results when compared to Group B with the mean increase of 0.505 gm\dl.

## 3. Effect on Serum Albumin

**In Group A:** The mean score before and after treatment are 3.90 and 4.08 respectively with mean difference of 0.18. Group A shows 4.74% increase in Serum Albumin which is statistically significant with p value 0.016.

**In Group B:** The mean score before treatment was 3.80 and mean score after treatment was 3.895 showing a mean difference of 0.09. Group B shows 2.36% increase in Serum Albumin which is statistically insignificant at p value 0.336.

**Between the Group:** The comparative Effect on Serum Albumin between the two groups is statistically insignificant at p value (=0.414). Group A showed better result when compared to Group B with the mean increase of 0.185 gm\dl.

## 4. Effect on Serum Globulin

**In Group A:** The mean score were 2.85 and 3.18 before and after trial respectively with mean difference of 0.32. Group A shows 11.38% increase in Serum Globulin which is highly significant at p value (0.00).

**In Group B:** The mean score before treatment was 2.97 and mean score after treatment was 3.11 showing a mean difference of 0.145. Group B shows 4.88% increase in Serum Globulin which is statistically insignificant at p value 0.070.

**Between the group:** The comparative Effect on Serum Globulin between the two groups is statistically insignificant at p value ( $=0.091$ ). Group A showed better result when compared to Group B with the mean increase of 0.325gm/dl.

## 5. Effect on Weight

**In Group A:** The mean score before treatment was 51.75 and 52.55 after treatment with mean difference 0.80. Group A shows 1.54% increase in weight which is statistically Highly significant at p value (0.00).

**In Group B:** The mean score before treatment was 53.15 and mean score after treatment was 53.150 showing a mean difference of 0.35. Group B shows 0.658% increase in Weight which is statistically insignificant at p value 0.201.

**Between the group:** The comparative Effect on Weight between the two groups is statistically insignificant at p value ( $=0.172$ ). Group A showed better result when compared to group B with the mean increase of 0.80kgs.

## 6. Effect on BMI

**In Group A:** The mean score before treatment was 20.08 and after treatment was 20.31 with mean difference of 0.23. Group A shows 1.155% increase in BMI which is statistically significant with p value 0.014.

**In Group B:** The mean score before treatment was 20.36 and mean score after treatment was 20.40 showing a mean difference of 0.0480. Group B shows 0.236% increase in BMI which is statistically insignificant at p value 0.612.

**Between the group:** The comparative Effect on BMI between the two groups is statistically insignificant at p value 0.155. Group A showed better result when compared to group B with the mean increase of 0.232.



### Subjective Parameters

The following signs and symptoms of arogya lakshana were graded for assessment with the help of questionnaire excluding Varṇa and Ayu. The Parameters were as mentioned below-

1. Anannābhilāṣa (Desire for Food)
2. Bhuktasya Paripāka (Easy Digestion of Food)
3. Srustavinmūtratwa (Excretion of Feces Urine)
4. Śarīrasya Laghavam (Lightness of Body)
5. Suprasnnendriyatwa (Well-functioning of Indriyas)
6. Sukhaswapnaprabodanam (Comfortable Sleep and Awakening)
7. Bala Labha (Attainment of Strength)
8. Soumanasya (Happiness)

All these parameters show statistically significant results in the Group A (except srustavinmootratwa and suprasnnendriyatwa) during the course of treatment and during follow up as well. When compared between both the groups, group A shows better results than group B in almost all parameters. The result are shown in Table 3.

**Table 3: Subjective Parameters**

Group	Z Value		P Value		Inference	
	AT-BT	FU-BT	AT-BT	FU-BT	AT-BT	FU-BT
<b>Annaabhilasha (Desire for food)</b>						
<b>Group A</b>	-3.00	-3.00	0.003	0.003	S	S
<b>Group B</b>	0.00	0.00	1.0	1.0	NS	NS
<b>Bhuktasya Paripaka (Easy Digestion of Food)</b>						
<b>Group A</b>	-4.00	-4.00	0.00	0.00	HS	HS
<b>Group B</b>	-1.414	-1.732	0.157	0.083	NS	NS
<b>Srustavinmootratwa (Excretion of Feces Urine)</b>						
<b>Group A</b>	-2.739	-2.739	0.006	0.006	NS	NS
<b>Group B</b>	-1.414	-1.414	0.175	0.175	NS	NS
<b>Shareerasya Laghavam (Lightness of Body)</b>						
<b>Group A</b>	-3.900	-3.900	0.00	0.00	HS	HS
<b>Group B</b>	-1.00	-1.00	0.371	0.371	NS	NS
<b>Suprasnnendriyatwa (Well-functioning of Indriyas)</b>						
<b>Group A</b>	-2.333	-2.333	0.20	0.20	NS	NS
<b>Group B</b>	-1.00	-1.00	0.317	0.317	NS	NS
<b>Sukhaswapnaprabodanam (Comfortable Sleep and Awakening)</b>						
<b>Group A</b>	-3.00	-3.00	0.003	0.003	S	S
<b>Group B</b>	-1.00	-1.414	0.317	0.157	NS	NS
<b>Bala Labha (Attainment of Strength)</b>						
<b>Group A</b>	-2.646	-2.646	0.008	0.008	S	S
<b>Group B</b>	-1.732	-1.414	0.083	0.157	NS	NS

Soumanasya (Happiness)						
Group A	-3.464	-3.464	0.001	0.001	HS	HS
Group B	-1.00	-1.00	0.317	0.317	NS	NS

Similarly, quality of life was assessed using WHOQOL-BREF questionnaire. When compared between the group, Group A showed better result than Group B in all domain of the quality of life.

The WHOQOL-100 allows detailed assessment of each individual facet relating to quality of life. The WHOQOL-BREF contains a total of 26 questions. These questions examine the ways in which a person assesses his/her overall quality of life, health and well-being. These facets has been divided into 4 domains as Domain I, II, III and IV. Domain I include Physical Health in which facets incorporated are Activities of daily living, Dependence on medicinal substances and medical aids, Energy and fatigue, Mobility, Pain and discomfort, Sleep and rest and Work Capacity. Domain II include Psychological health in which facets incorporated are Bodily image and appearance, Negative feelings, Positive feelings, Self-esteem Spirituality / Religion / Personal beliefs and Thinking, learning, memory and concentration. Domain III includes Social relationships in which the facets incorporated are Personal relationships, Social support and Sexual activity. Domain IV includes Environmental health in which the facets incorporated are Financial resources, Freedom, physical safety and security, Health and social care: accessibility and quality, Home environment, Opportunities for acquiring new information and skills, Participation in and opportunities for recreation / leisure activities, Physical environment (pollution / noise / traffic / climate) and Transport.

In the present study, in Group A while comparing within the group, statistically significant result was obtained in Domain I, Domain II and IV. While comparing between the group the result was statistically significant in Domain I and Domain II. But the result was better in Group A. The statistical data of the same are given in Table 4.

**Table 4: Effect on quality of life after treatment.**

1Domain I	Group	Data	Values				Within Group		Comparison	
			Mean	± SD	± SEM	Difference	T Value	P Value	T Value	P Value
	A	BT	60.45	5.66	0.89	24.20	-5.30	0.00	-5.30	0.00
		AT	84.65							
	B	BT	56.05	5.59	1.25	3.70	-2.95	0.008		
AT		59.75								

Domain II	A	BT	62.45	6.86	1.53	3.85	-2.50	0.02	2.182	0.03
		AT	66.30							
	B	BT	60.20	7.74	1.73	1.20	0.69	0.49		
		AT	59.0							
Domain III	A	BT	82.15	8.62	1.92	4.05	-2.09	0.49	2.013	0.05
		AT	86.20							
	B	BT	83.80	6.63	1.48	0.85	0.57	0.57		
		AT	82.95							
Domain IV	A	BT	68.05	7.57	1.69	4.55	-2.68	0.01	1.76	0.08
		AT	72.60							
	B	BT	65.40	5.96	1.33	0.75	-0.56	0.58		
		AT	66.15							

### 1. Effect on Domain I

**In Group A:** The mean score before and after treatment are 60.45 and 84.65 respectively with mean increase of 24.20. in Group A 28.59% change in Domain I value after treatment which is statistically highly significant at p value 0.00.

The mean score before treatment and after follow up are 60.45 and 84.65 respectively with mean increase of 24.20. In Group A 28.59% change in Domain I value after follow up which is statistically Highly significant at p value 0.00.

**In Group B:** The mean score before treatment was 56.05 and mean score after treatment was 59.75 showing a mean difference of 3.70. Group B shows 6.6% increase in Domain I after treatment which is statistically significant at p value 0.008.

The mean score before treatment was 56.050 and mean score after follow up was 59.75 showing a mean difference of 3.70. Group B shows 6.6% increase in Domain I after follow up which is statistically significant at p value 0.008.

**Between the group:** The comparative Effect on Domain I of WHO Quality of Life Assessment between the two groups after treatment is statistically insignificant at p value (=0.36). Group A showed better result when compared to group B with the mean increase of 24.20 score.

The comparative Effect on Domain I of WHO Quality of Life Assessment after follow up between the two groups is statistically insignificant at p value (=0.36). Group A showed better result when compared to group B with the mean increase of 24.20 score.

## 2. Effect on Domain II

**In Group A:** The mean score before treatment and after treatment are 62.45 and 66.30 respectively with mean difference of 3.85. In Group A 6.16% change in Domain II value after treatment which is statistically significant at p value 0.02.

The mean score before treatment and after follow up are 62.45 and 66.30 respectively with mean difference of 3.85. In Group A 6.16% change in Domain II value after treatment which is statistically significant at p value 0.02.

**In Group B:** The mean score before treatment was 60.20 and mean score after treatment was 59.0 showing a mean difference of 1.20. Group B shows 1.99% decrease in Domain II after treatment which is statistically insignificant at p value 0.49.

The mean score before treatment was 60.20 and mean score after treatment was 59.35 showing a mean difference of 0.85. Group B shows 1.41% decrease in Domain II after follow up which is statistically insignificant at p value 0.62.

**Between the group:** The comparative Effect on Domain II of WHO Quality of Life Assessment after treatment between the two groups is statistically significant at p value ( $=0.35$ ). Group A showed better result when compared to group B with the mean increase of 3.85 score.

The comparative Effect on Domain II of WHO Quality of Life Assessment after follow up between the two groups is statistically significant at p value ( $=0.048$ ). Group A showed better result when compared to group B with the mean increase of 3.85 score.

## 3. Effect on Domain III

**In Group A:** The mean score before treatment was 82.15 and after treatment was 86.2 with mean difference of 4.05. Group A shows 4.93% increase in Domain III after treatment which is statistically insignificant with p value 0.49.

The mean score before treatment was 82.15 and after follow up was 86.20 with mean difference of 4.05. Group A shows 4.93% increase in Domain III after follow up which is statistically insignificant with p value 0.49.

**In Group B:** The mean score before treatment was 83.80 and mean score after treatment was 82.95 showing a mean difference of 0.85. Group B shows 1.01% decrease in Domain III after treatment which is statistically insignificant at p value 0.57.

The mean score before treatment was 83.80 and mean score after follow up was 82.95 showing a mean difference of 0.85. Group B shows 1.01% decrease in Domain III after follow up which is statistically insignificant at p value 0.57.

**Between the group:** The comparative Effect on Domain III of WHO Quality of Life Assessment after treatment between the two groups is statistically insignificant at p value ( $=0.05$ ). Group A showed better result when compared to group B with the mean increase of 4.05 score.

The comparative Effect on Domain III of WHO Quality of Life Assessment after follow up between the two groups is statistically insignificant at p value ( $=0.05$ ). Group A showed better result when compared to group B with the mean increase of 4.05 score.

#### 4. Effect on Domain IV

**In Group A:** The mean score before treatment was 68.050 and after treatment was 72.60 with mean difference of 4.55. Group A shows 6.69% increase in Domain IV after treatment which is statistically insignificant with p value 0.015.

The mean score before treatment was 68.050 and after follow up was 72.60 with mean difference of 4.55. Group A shows 6.69% increase in Domain IV after follow up which is statistically insignificant with p value 0.015.

**In Group B:** The mean score before treatment was 65.40 and mean score after treatment was 66.15 showing a mean difference of 0.75. Group B shows 1.147% increase in Domain IV after treatment which is statistically insignificant at p value 0.58.

The mean score before treatment was 65.40 and mean score after follow up was 66.50 showing a mean difference of 1.10. Group B shows 1.16% increase in Domain IV after follow up which is statistically insignificant at p value 0.47.

**Between the group:** The comparative Effect on Domain IV of WHO Quality of Life Assessment after treatment between the two groups is statistically insignificant at p value

(=0.08). Group A showed better result when compared to group B with the mean increase of 4.55 score.

The comparative Effect on Domain IV of WHO Quality of Life Assessment after follow up between the two groups is statistically insignificant at p value (=0.13). Group A showed better result when compared to group B with the mean increase of 4.55 score.

## DISCUSSION

### Discussion on Rasayana

Rasayanatantra.<sup>[6]</sup>, one among the Ashtanga Ayurveda, has been practiced since Vedic period. Rasayana is the one which nourishes all the rasaadhi saptadhatu. Rasayana is both ayusthapana<sup>[7]</sup> and vayahsthapana.<sup>[8]</sup> ie the one which increase quantity as well as quality of life.<sup>[9]</sup> The quality of life was given equal importance to quantity of life in classics. Rasayana has been defined as:

- Rasayana is one which promotes madhyavayah, postpone jara and does Vyadhinashana.<sup>[10]</sup>
- Rasayana therapy is one which delays aging process, increases longevity, intellect, vitality and makes body fit to fight against ailments and also prevents from diseases.<sup>[11]</sup>
- The Dravyas which cures the Jaraa as well as the diseases are considered as Rasayana.<sup>[12]</sup>
- Rasayana is one which prevents the unscheduled old age, treat the diseases, helps in maintaining the youthful state of a person, improve the vision and restores healthy bodily tissues.<sup>[13]</sup>

Rasayana use increases the prashashta bhava of the rasa, which will promote the health. Acharya Vagbhatta has indicated Tilaamalakaadi rasayana as one of the vataataapika rasayana which can be taken daily by swastha for the betterment of the health.

### Probable mode of action of rasayana

The action of Rasayana can be summarized based on these factors such as Vardhaka which means Dhatuvardhaka and Ayuvardhaka which provides longevity, Sthapaka means which stabilizes youthfulness Aprapthapraapaka which is improving the body tissues by providing proper nutrition to body, thereby revitalizing body and improving status of immunity in body.<sup>[14]</sup>

The mode of action of rasayana can be considered under three headings as:

1. Rasa: By proper formation of rasa and nourishing all the rasadi sapta dhatu
2. Agni: By normalizing the agni, so that all the dhatu in the body can be properly formed and nourished.
3. Srotas: By giving proper patency to the srotas, so that the proper nourishment in the body can take place.

### Utility of rasayana

The attributes of rasayana have been exhaustively described in classics. While explaining about the preventive measures of Janapadodwamsa Vyadhi, emphasis has been given to rasayana therapy. In diseased condition also to alleviate Vikrita Rasadi Dhatu, make them normal and to enhance Vyadhikshamatva Rasayana therapy has been indicated.

Rasayana is explained for Swastha under headings like, Ajasrika rasayana,<sup>[15]</sup> Buddhimedhakara Gana,<sup>[16]</sup> Achara Rasayana<sup>[17]</sup>, Prakritibheda Rasayana,<sup>[18]</sup> Ayushkaragana<sup>[19]</sup> etc. In swastha condition also the dosha and dhatu will be changing according to the diurnal and seasonal pattern. Also the body will be undergoing constant depletion. So, to increase the prashasta bhava of dosha and dhatu, rasayana is indicated in swastha.

### Probable mode of action of Tilaamalakaadi Rasayana

The trial drug of present study tilaamalakaadi rasayana contain 3 drugs: Haritaki, Amalaki and Tila in equal proportion. The mode of action of tilaamalakaadi rasayana can be attributed to the gunas of each component of the rasayana. Haritaki is considered as 'Pathyanam Shrestham'.<sup>[20]</sup> Amalaki is one among the nityasevaniya dravya.<sup>[21]</sup> It is best among the vayah sthapana dravyas and tila taila is best among the taila.

All the three components in tilaamalakaadi are tridoshashamaka, tila being slight pitta vardhaka and amalaki acting specially as pitta shamaka. So the yoga helps in maintaining the normalcy of the tridosha in the body ie samadoshavastha and will not let them vitiate by external or internal factors. The madhura rasa and madhura vipaka of the drug help in the dhatuwardhana. The tikta and katu rasa of tila helps to increase the appetite as well the ushna veerya of haritaki and tila increase the agni. All the three components in this yoga are termed as rasayana in classics. So in combination they act synergistically to improve rasayana action.

### Mode Of Action On Objective And Subjective Parameters

The properties of the drugs used in the yoga i.e. Haritaki and amalaki have lavana varjita pancha rasa and tila has katu, tikta rasa and madhura as anurasa. All the three components have Madhura vipaka, and Ushna virya (amalaki shita virya) which by nature help to improve the Rasadi Dhatu. The tikta rasa and katu rasa in tila increase the appetite. As per Samanya Vriddhikaranam Siddhanta the Madhura rasa drugs nourishes the Rasadi Dhatus. Since haritaki and tila have katu vipaka, they improve the functioning of Agni also and improves metabolism in the body. This justifies the improvement in the objective parameters.

The Ushna guna, Ushna veerya of both tila and Haritaki, and tikta rasa of tila helps in clearing the Sroto avarodha by enhancing the agni. The anulomana quality of haritaki help in proper functioning of the excretory organs. Pertaining to these qualities we can justify the improvements in the subjective parameters.

### CONCLUSION

The ultimate aim of a person's life is the attainment of purushartha chathushtaya (Dharma, Artha, Kama and Moksha) for which proper health is needed. Health as per ayurveda is the state of equilibrium of dosha, dhatu, mala and kriya. Due to various factors ongoing in the environment as well as inside the body, the condition of dosha are prone to change. In the present scenario also, due to the drastic change in the dietary pattern and lifestyle Rasayana therapy can be administered for the maintenance of health. As by various studies, the revitalize, anti-oxidant, adaptogen and immunomodulator action of rasayana drug has been proved. Rasayana therapy serves both the aim of ayurveda in preserving-promoting health of healthy and curing disease of the diseased person once its manifested. Rasayana is both vayahsthapana and ayusthapana. As a whole it improves the quality of life of an individual and promotes positive health.

The present study was carried out to assess health promoting effect of Tilaamalakaadi rasayana in healthy individual. The Tilaamalakaadi rasayana group showed statistically significant result in both the subjective as well as objective parameters. In the control group, most of the result were statistically insignificant. There was statistically significant result when compared between the two groups. Thus, Tilaamalakaadi rasayana can be used for promotion of health of healthy individuals.



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