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"A RANDOMIZED OPEN- LABEL CONTROLLED CLINICAL STUDY TO EVALUATE THE EFFICACY OF *PATHYA AHARA* ALONG WITH *RASONADI KWATHA* AND *RASONADI KWATHA* ALONE IN THE MANAGEMENT OF *AMAVATA* WITH SPECIAL REFERENCE TO RHEUMATOID ARTHRITIS"

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Abstract:
Context: Ayurveda focuses on disease prevention and the treatment of illnesses such as **Amavata**, a debilitating disease of the locomotor system resembling **Rheumatoid Arthritis (RA)**. This study addresses the knowledge gap regarding the efficacy of **Pathya Ahara** (wholesome diet) in managing this condition. **Objective:** To compare the efficacy of Pathya Ahara combined with **Rasonadi Kwatha** against Rasonadi Kwatha alone in managing Amavata. **Methodology:** A randomized, open-label, parallel-group clinical study was conducted with 30 subjects (15 per group) for 45 days. Group A received both the diet and the drug, while Group B received only the drug. **Results:** Both groups showed highly significant improvements ($p < 0.0001$). Group A showed a **70% improvement**, while Group B showed a **57% improvement**. **Conclusion:** Pathya Ahara and Rasonadi Kwatha are safe and highly efficacious in managing Amavata.

INTRODUCTION

Ayurveda emphasizes the maintenance of health and equilibrium of **Dosha, Dhatu, Agni, and Mala**. **Amavata** is an agonizing condition caused by the combined effect of **Ama** (toxic metabolites from impaired digestion) and vitiated **Vata**. It typically manifests as joint pain (**Sandhishoola**), swelling (**Shotha**), and stiffness (**Stabdhata**). Acharya Charaka describes **Pathya** as a synonym for treatment, as it softens channels and alleviates vitiated Doshas.

Need For The Study

Due to wide spectrum of Disease, much prevalence in the society and lack of effective medicament, the disease is being chosen for the study. The role of Pathya Ahara is very important, especially while treating the patients of *Amavata* because *Amavata* occurs due to faulty eating habits and impaired digestive functions. Considering all above, the present study is undertaken to minimize the complaints of patient under the topic Entitled **"A Randomized Open- Label Controlled Clinical Study To Evaluate The Efficacy Of *Pathya Ahara* Along With *Rasonadi Kwatha* And *Rasonadi Kwatha* Alone In The Management Of *Amavata* With Special Reference To Rheumatoid Arthritis"** so as to make the sufferer free from clinical signs and symptoms.For the present study, *"Pathya Ahara"* and *"Rasonadi Kwatha"* described in *Amavata Chikitsa Prakarana* has been selected with the best *Amavatahara* properities.

AIMS AND OBJECTIVES

- **Aim:** To assess the role of Pathya Ahara in Amavata.
- **Objectives:**

1. To prepare a dietary module (Pathya Ahara) for the patients of Amavata.
2. To study the clinical effect of prescribed diet (Pathya Ahara) and "Rasonadi Kwatha" in Amavata.
3. To assess the efficacy of "Rasonadi Kwatha" in Amavata.
4. To compare the efficacy of 'Pathya Ahara' along with Rasonadi Kwatha and Rasonadi kwatha alone in the management of Amavata with special reference to Rheumatoid arthritis.

STUDY TYPE

- **CTRI Number:** CTRI/2024/09/074459.
- **Type of Study:** Interventional, Randomized, Open-Label, Parallel Group Trial.
- **Sample Size:** Sample size of 30 will be randomized into a two groups, 15 subjects in each group.

DRUG REVIEW:

Rasonadi Kwatha

Formulation of *Rasonadi Kwatha*: It is a classic *Ayurvedic* Drug taken from *Bhav Prakash* in *Amavata Chikitsa Prakarana* **26/39.**

Rasonadi Kwatha

Table No. 01: Ingredients of *Rasonadi Kwatha*

S.NO.	Name (Latin name)	Useful Part	Proportion
1	*Rasona* (*Allium sativum* Linn.)	Bulb	1 part
2	*Shunthi* (*Zingiber officinale* Rosc.)	Rhizome	1 part
3	*Nirgundi* (*Vitex negundo* Linn.)	Leaf, Root	1 part

Method of Preparation of Drug:

The following drugs *Rasona, Shunthi, Nirgundi* were taken in raw form and were washed and kept in sunlight for one week. *Shunthi* and *Nirgundi* were taken and processed thoroughly in *Yavkut* form separately and made into coarse powder form. *Rasona* is taken in Paste form. After this the drugs were packed.

CRITERIA'S OF SELECTION OF *PATHYA AHARA* FOR *AMAVATA*

Deepan, Pachan and *Langhan Chikitsa* is first line of treatment of *Amavata.* Because *Agnimandhya* is important factor in the *Samprati* of *Amavata* so it treated for *Agnivardhana*.

Properties of *Ahara Dravyas* which were selected for Amavata

- *Deepana, Pachana* and *Ruchikarka Drvayas*.
- Mainly *Katu, Tikta* and *Kashaya Rasa* predominant *Dravyas*.
- *Vatashamaka Dravyas.*
- *Drvayas* have *Tikshna* property and *Ushna Veerya.*

Table No. 2: DIET CHART

	TO BE USED	TO BE USED IN LESS QUANTITY	NOT TO BE USED

Rice	➢ Red Rice / लाल चावल ➢ Old Harvested Rice / पुराना चावल	----------	➢ Newly Harvested Rice /नया चावल
Flour	➢ Barley / जौ	➢ Wheat / गेहूँ	➢ Maize / मक्का
Pulses	➢ Horse Gram / कुलथी	➢ Bengal Gram / Chickpeas/ चना ➢ Green Gram / मूंग दाल	➢ Black gram / उड़द
Vegetables	➢ Bittergourd / करेला ➢ Pointed Gourd/परवल ➢ Drumstick / /सहजन / सुजना	➢ Bottle Gourd /लौकी	➢ Malabar Spinach / पोई साग
Drink	➢ Lukewarm Water ➢ Ginger Decoction / अदरक का काढा ➢ Drumstick decoction /सहजन का काढा / सुजना	➢ Fruits Juice	➢ Chilled Water / ठंडा पानी ➢ Contaminated Water / दू षित पानी
Milk	----------	----------	➢ Milk, Curd
Porridge	➢ Millets (*Kodo* /कोदो, *Sawa* / सांवा)	----------	----------
Meat	➢ Meat Soup	----------	----------
Others	➢ Garlic Processed In Buttermilk / छाछ में लहसुन डालें, ➢ Food processed in *Panchkola* / भोजन में पंचकोल	----------	➢ Fish / मछली ➢ Jaggery /गुड़

PICTURES OF DRUGS

RASONADI KWATHA

RASONA

SHUNTHI

NIRGUNDI

MATERIALS AND METHODS

- **Source Of Data**

Patients:

The patients of either sex, suffering from "*Amavata"* were selected from OPD and IPD of Jammu Institute of *Ayurveda* and Research, Nardani.

- **Study Design:**

A randomized, open label, parallel group, pre and post-test clinical study.

- **Number of groups:** Two
- **Randomization:** Randomization will be done by using chits.
- **Sample Size:**

Sample size of 30 will be randomized into a two groups, 15 subjects in each group.

- **Intervention:**

Group A: (Trial group): A Printed diet chart was prepared and given to patients to follow that dietary chart along with *Rasonadi Kwatha* 48 ml twice a day before meals. [Table no.23].

Group B: (Controlled group): 48 ml of *Rasonadi Kwath* twice a day before meals. No diet chart will be advised to this group.

- **Trial Duration:** 45 days (30 days drug trial + follow-up).

Inclusion Criteria

1. Patients having Cardinal Signs and Symptoms of *Amavata* will be considered for present study.
2. Patients of both the gender between the age group of 16-60 years presenting Clinical symptoms.
3. Patients willing and able to participate in the study.
4. Patients who gave informed written consent for trial were enrolled for the study

Exclusion Criteria

1. Patients aged below 16 years and above 60 years.
2. Gout, Osteoarthritis, Ankylosing Spondylitis, Osteomyelitis
3. Pregnant and lactating women.
4. Arthritis with malignancy.
5. Psoriatic Arthritis, Rheumatic fever, Asymmetrical Arthritis.
6. Ulnar deviation, Swan neck deformity of wrist and elbow.
7. Patient suffering from other systemic complicated diseases like Diabetes Mellitus, Pulmonary Tuberculosis, Hyperthyroidism, Hypothyroidism etc.

CRITERIA OF ASSESSMENT:

For evaluating the efficacy of the Drug, following parameters will be adopted before and after the treatment.

Subjective Parameters:

The Signs and Symptoms of *Amavata* as per *Ayurvedic* classics:

- ✓ *Sandhistabdhata (Morning stiffness)*
- ✓ *Sandhishoola (Pain)*
- ✓ *Sandhishotha (Swelling)*
- ✓ *Apaka (Indigestion)*

Objective Parameters:

- ESR
- R.A Factor
- CRP

GRADING OF THE ASSESSMENT CRITERIA:

The Results of the therapies were assessed on the basis of Signs & Symptoms mentioned in *Ayurveda*.

Table No. 3 Grading of The Assessment Criteria

***1. Sandhi Stabdhata* (Stiffness of the joints)**

Sandhi Stabdhata	***Score***
No stiffness	0
Stiffness lasting < 15 min	1
Stiffness lasting < 30 min	2
Stiffness lasting for < 1 hour	3
Stiffness lasting for > hour	4

***2.Sandhishoola (*Pain in the joints)**

Sandhishoola	***Score***
No Pain	0
Mild bearable Pain	1
Moderate Pain	2
Severe Pain with slight difficulty in movement	3
Severe Pain with more difficulty in movement	4

***3.Sandhishotha* (Swelling of the joint)**

Sandhishotha	***Score***
No swelling	0
Feeling of swelling	1
Feeling of swelling+ heaviness	2
Apparent Swelling	3
Huge Swelling	4

4. *Apaka* (Indigestion)

Apaka	*Score*
No *Apaka*	0
Indigestion/prolonged of food digestion period occasionally related to heavy meal	1
Avipaka occurs daily after each meal takes 4 to 6 hour for *Udagara Shuddhi Lakshana*	2
Eat only once in a day and does not have hungry by evening	3
Never gets hungry always feeling heaviness in abdomen	4

OBJECTIVE PARAMETERS: (Acc. to WHO)

PARAMETERS	**NORMAL VALUES**
ESR	<20 mm/hr
RA Factor	<15 IU/Ml
CRP	<10 mg/L

CRITERIA FOR OVERALL EFFECT OF THERAPY:

Table No. 4 Overall Effect of Therapy

Complete Remission	100% relief in the sign and symptoms will be taken as complete remission
Marked Improvement	More than 76% improvement in the sign and symptoms will be taken as markedly improved.
Moderate Improvement	51 to 75% relief in the sign and symptoms will be taken as moderately improved.
Mild Improvement	26 to 50% relief in the sign and symptoms will be taken as mildly improved.
Unchanged	Result below 25% in the sign and symptoms will be considered as Unchanged

Observation and Results

- **Demographics:** Maximum patients were in the 46–60 age group (67% in Group A). Male prevalence was higher in this study (60–67%).

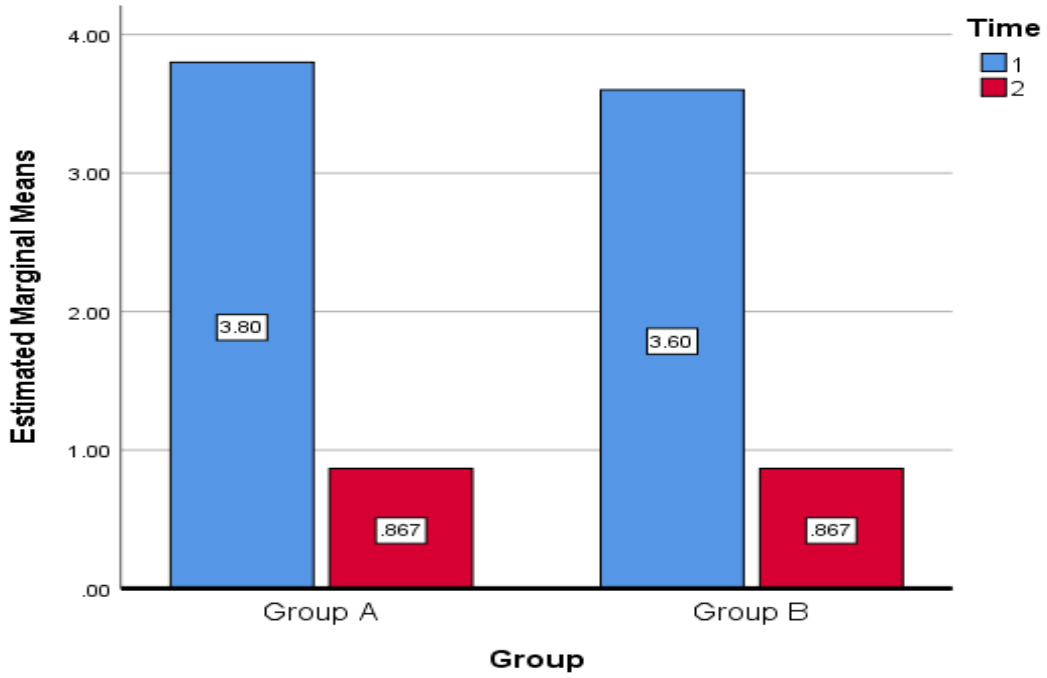
Table no.5

Paired Samples Test										
			Paired Differences					t	df	Sig. (2-tailed)
			Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
						Lower	Upper			
SANDHI STABDHATA	GROUP A	PRE & POST INTERVENTION	2.933	.594	.153	2.605	3.262	19.138	14	.000
SANDHI SHOOLA	GROUP A	PRE & POST INTERVENTION	2.467	.516	.133	2.181	2.753	18.500	14	.000
SANDHI SHOTHA	GROUP A	PRE & POST INTERVENTION	2.467	.640	.165	2.112	2.821	14.929	14	.000
APAKA	GROUP A	PRE & POST INTERVENTION	3.000	.756	.195	2.581	3.419	15.370	14	.000
ESR	GROUP A	PRE & POST INTERVENTION	40.200	2.178	.562	38.994	41.406	71.491	14	.000
RA FACTOR	GROUP A	PRE & POST INTERVENTION	52.800	2.396	.619	51.473	54.127	85.333	14	.000
CRP	GROUP A	PRE & POST INTERVENTION	22.73333	1.48645	.38380	21.91017	23.55650	59.232	14	.000
SANDHI STABDHATA	GROUP B	PRE & POST INTERVENTION	2.733	.799	.206	2.291	3.176	13.252	14	.000
SANDHI SHOOLA	GROUP B	PRE & POST INTERVENTION	1.933	.884	.228	1.444	2.423	8.473	14	.000
SANDHI SHOTHA	GROUP B	PRE & POST INTERVENTION	2.067	.884	.228	1.577	2.556	9.057	14	.000
APAKA	GROUP B	PRE & POST INTERVENTION	3.000	.655	.169	2.637	3.363	17.748	14	.000
ESR	GROUP B	PRE & POST INTERVENTION	39.533	2.615	.675	38.085	40.981	58.552	14	.000
RA FACTOR	GROUP B	PRE & POST INTERVENTION	53.133	3.642	.940	51.116	55.150	56.498	14	.000
CRP	GROUP B	PRE & POST INTERVENTION	22.733	1.280	.330	22.025	23.442	68.792	14	.000

Table No. 6 Group A and Group B (pre vs. post) of *Sandhi Stabdhata*

Descriptive Statistics				
	Group	Mean	Std. Deviation	N
Pre	Group A	3.8000	.41404	15
	Group B	3.6000	.50709	15
	Total	3.7000	.46609	30
Post	Group A	.8667	.63994	15
	Group B	.8667	.74322	15
	Total	.8667	.68145	30

From above table we observed that at the pre-test stage, **Group A** had a mean score of **3.80** (SD = 0.41), and **Group B** had a mean score of **3.60** (SD = 0.51). At post-test, both **Group A** and **Group B** had identical mean scores of **0.87**, with standard deviations of 0.64 and 0.74 respectively.

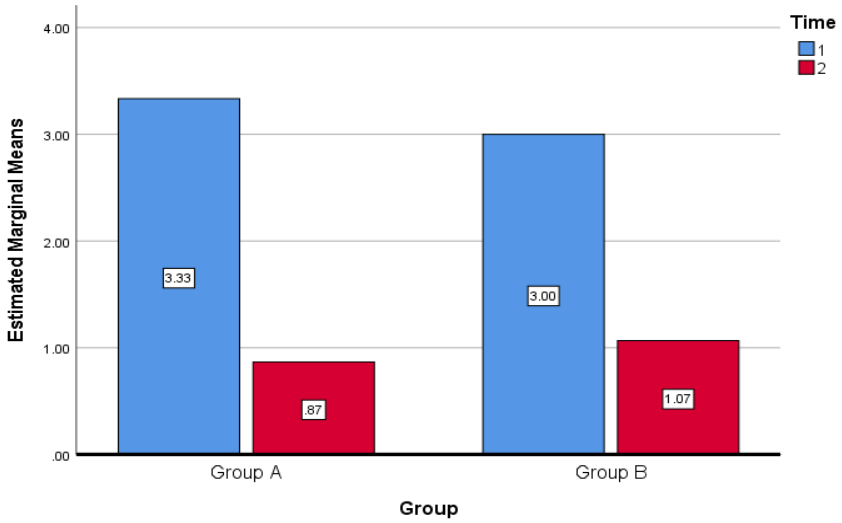


Graph No. 1: Bar chart comparing the mean scores of Group A and Group B before and after the intervention. Both groups showed a decline in scores post intervention, with no significant interaction between group and time.

Table No.7 Group A and Group B (pre vs. post) of *Sandhi Shoola*

Descriptive Statistics				
	Group	Mean	Std. Deviation	N
Pre	Group A	3.3333	.48795	15
	Group B	3.0000	.65465	15
	Total	3.1667	.59209	30
	Group A	.8667	.63994	15
	Group B	1.0667	.59362	15
	Total	.9667	.61495	30

From the above table, we observed that at the pre-test stage, Group A had a mean score of 3.33 (SD = 0.49), and Group B had a mean score of 3.00 (SD = 0.65). At post-test, Group A and Group B had mean scores of 0.87 and 1.07 respectively, with standard deviations of 0.64 and 0.59.

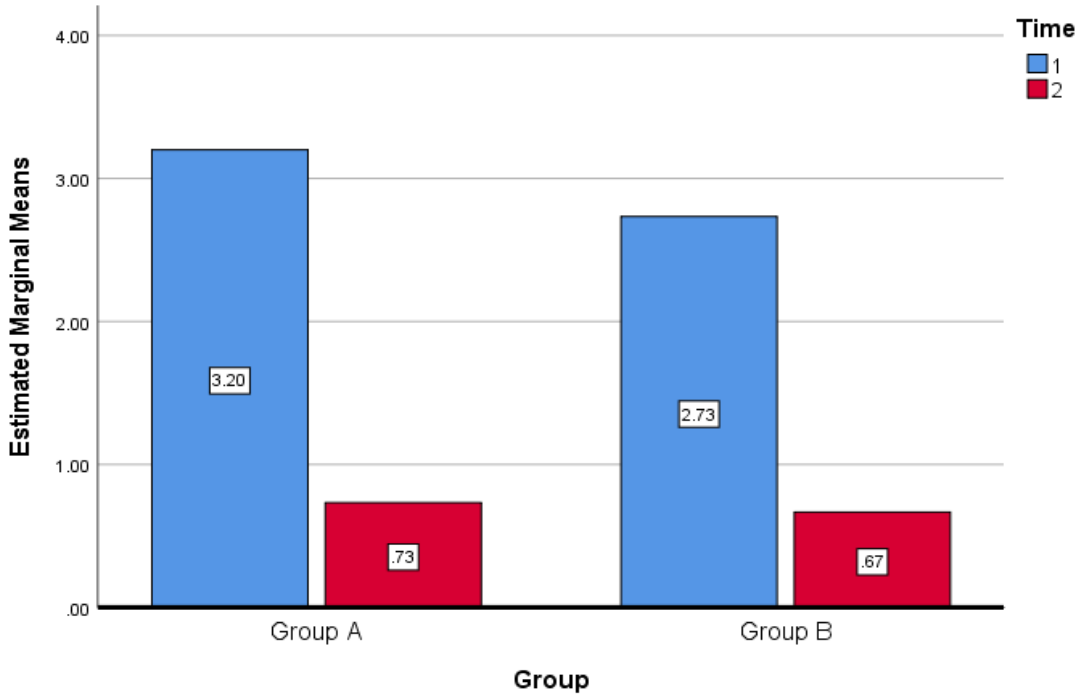


Graph No. 2: Bar chart comparing the mean scores of Group A and Group B before and after the intervention. Both groups showed a decline in scores post intervention, with no significant interaction between group and time.

Table No. 8 Group A and Group B (pre vs. post) of *Sandhi Shotha*

Descriptive Statistics				
	Group	Mean	Std. Deviation	N
Pre	Group A	3.2000	.77460	15
	Group B	2.7333	.79881	15
	Total	2.9667	.80872	30
Post	Group A	.7333	.59362	15
	Group B	.6667	.72375	15
	Total	.7000	.65126	30

From the above table, we observed that at the pre-test stage, Group A had a mean score of 3.20 (SD = 0.77), and Group B had a mean score of 2.73 (SD = 0.80). At post-test, Group A and Group B had mean scores of 0.73 and 0.67 respectively, with standard deviations of 0.59 and 0.72.

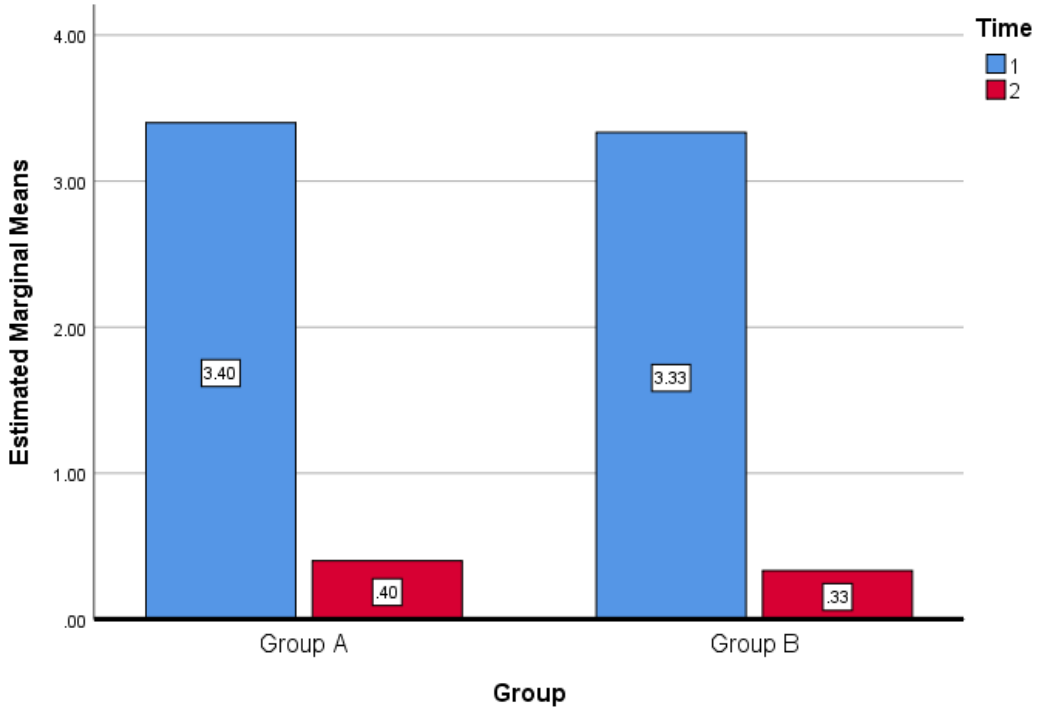


Graph No. 3 : Bar chart comparing the mean scores of Group A and Group B before and after the intervention. Both groups showed a decline in scores post intervention, with no significant interaction between group and time.

Table No. 9 Group A and Group B (pre vs. post) of *Apaka*

Descriptive Statistics				
	Group	Mean	Std. Deviation	N
Pre	Group A	3.4000	.73679	15
	Group B	3.3333	.48795	15
	Total	3.3667	.61495	30
Post	Group A	.4000	.63246	15
	Group B	.3333	.48795	15
	Total	.3667	.55605	30

From the above table, we observed that at the pre-test stage, Group A had a mean score of 3.40 (SD = 0.74), and Group B had a mean score of 3.33 (SD = 0.49). At post-test, Group A and Group B had mean scores of 0.40 and 0.33 respectively, with standard deviations of 0.63 and 0.49.

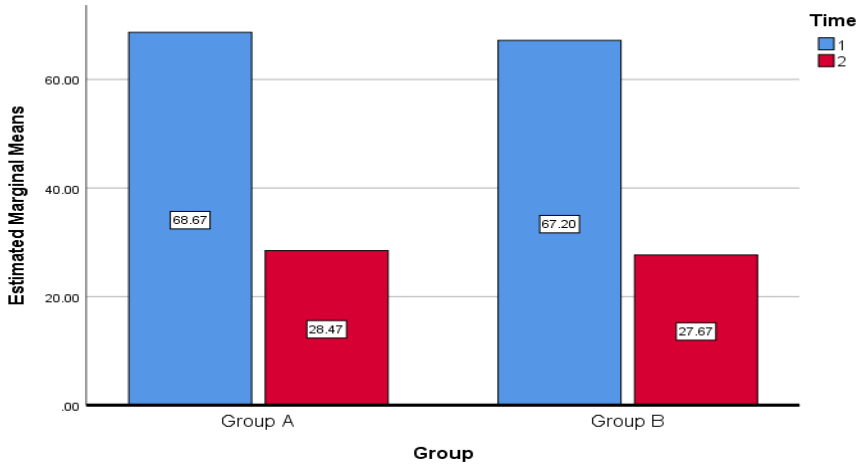


Graph No. 4: Bar chart comparing the mean scores of Group A and Group B before and after the intervention. Both groups showed a decline in scores post intervention, with no significant interaction between group and time.

Table No. 10 Group A and Group B (pre vs. post) of ESR

Descriptive Statistics				
	Group	Mean	Std. Deviation	N
Pre	Group A	68.6667	4.04734	15
	Group B	67.2000	5.17135	15
	Total	67.9333	4.62328	30
Post	Group A	28.4667	2.19957	15
	Group B	27.6667	3.22195	15
	Total	28.0667	2.74092	30

From the above table, we observed that at the pre-test stage, Group A had a mean score of 68.67 (SD = 4.05), and Group B had a mean score of 67.20 (SD = 5.17). At post-test, Group A and Group B had mean scores of 28.47 and 27.67 respectively, with standard deviations of 2.20 and 3.22.

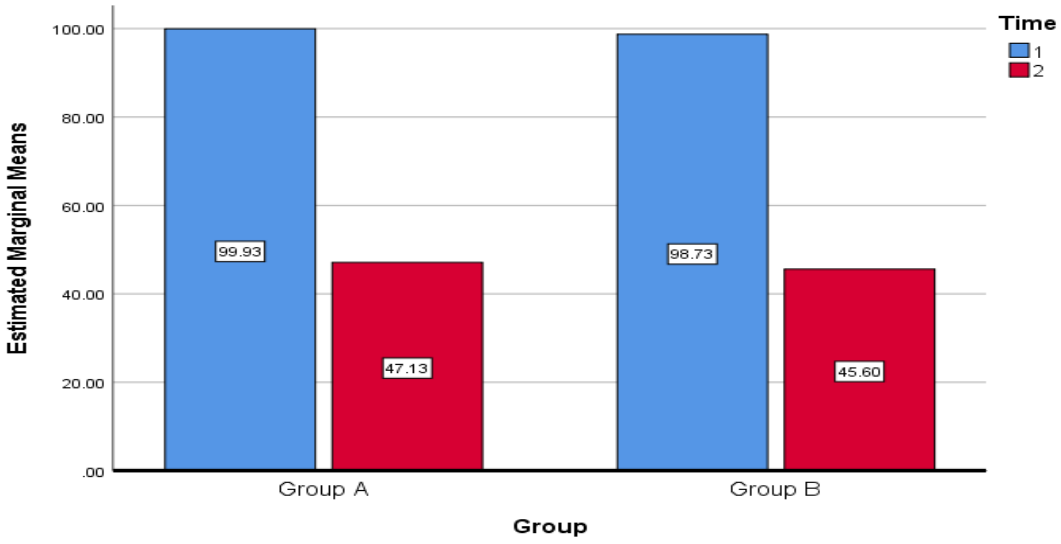


Graph No. 5 : Bar chart comparing the mean scores of Group A and Group B before and after the intervention. Both groups showed a decline in scores post intervention, with no significant interaction between group and time.

Table No. 11 Group A and Group B (pre vs. post) of RA

Descriptive Statistics				
	Group	Mean	Std. Deviation	N
Pre	Group A	99.9333	5.25719	15
	Group B	98.7333	6.51884	15
	Total	99.3333	5.85063	30
Post	Group A	47.1333	3.70071	15
	Group B	45.6000	4.56383	15
	Total	46.3667	4.15629	30

From the above table, we observed that at the pre-test stage, Group A had a mean score of 99.93 (SD = 5.26), and Group B had a mean score of 98.73 (SD = 6.52). At post-test, Group A and Group B had mean scores of 47.13 and 45.60 respectively, with standard deviations of 3.70 and 4.56.

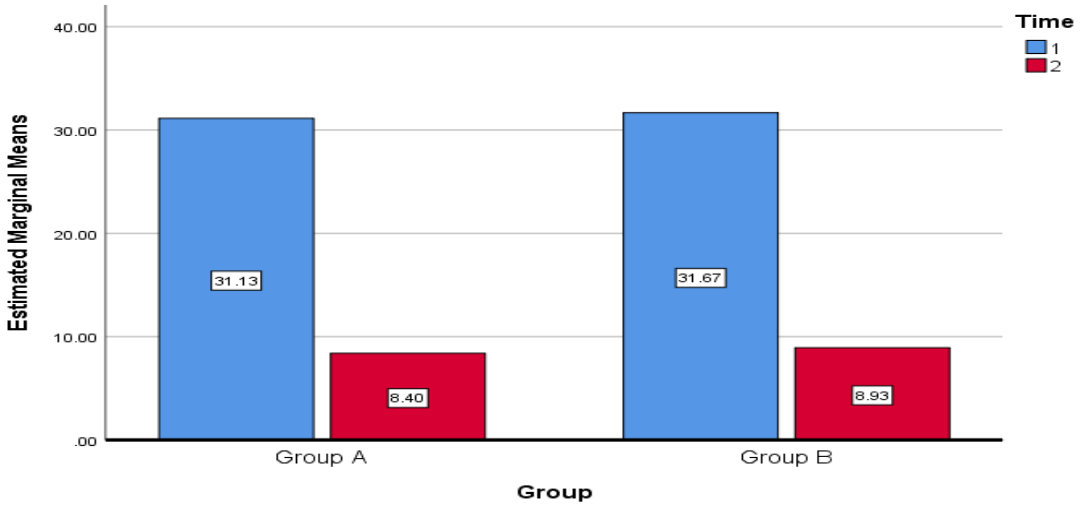


Graph No. 6 : Bar chart comparing the mean scores of Group A and Group B before and after the intervention. Both groups showed a decline in scores post intervention, with no significant interaction between group and time.

Table No. 12 Group A and Group B (pre vs. post) of CRP

Descriptive Statistics				
	Group	Mean	Std. Deviation	N
Pre	Group A	31.1333	2.85023	15
	Group B	31.6667	2.49762	15
	Total	31.4000	2.64705	30
Post	Group A	8.4000	1.59463	15
	Group B	8.9333	1.66762	15
	Total	8.6667	1.62594	30

From the above table, we observed that at the pre-test stage, Group A had a mean score of 31.13 (SD = 2.85), and Group B had a mean score of 31.67 (SD = 2.50). At post-test, Group A and Group B had mean scores of 8.40 and 8.93 respectively, with standard deviations of 1.59 and 1.67.



Graph No. 7: Bar chart comparing the mean scores of Group A and Group B before and after the intervention. Both groups showed a decline in scores post intervention, with no significant interaction between group and time.

Table No. 13 Comparative analysis of Group A and Group B

		Mean	Std. Deviation	Std. Error Mean	T Value	P Value
SANDHI STABDHATA	Group A	.87	.640	.165	0.00	1.000
	Group B	.87	.743	.192		
SANDHI SHOOLA	Group A	.87	.640	.165	-1.146	.271
	Group B	1.07	.594	.153		
SANDHI SHOTHA	Group A	.73	.594	.153	.250	.806
	Group B	.67	.724	.187		
APAKA	Group A	.40	.632	.163	.269	.792
	Group B	.33	.488	.126		
ESR	Group A	28.47	2.200	.568	.757	.461
	Group B	27.67	3.222	.832		
RA	Group A	47.13	3.701	.956	.939	.364

	Group B	45.60	4.564	1.178		
CRP	Group A	8.4000	1.59463	.41173	-.866	.401
	Group B	8.93	1.668	.431		

Table No. 14 OVERALL RESULT OF THERAPY IN GROUP A AND GROUP B

OVERALL IMPROVEMENT	NO. OF PATIENTS	%age
Complete Remission	4	26.6%
Marked Improvement	6	40.9%
Moderate Improvement	3	23%
Mild Improvement	2	9.5%
Unchanged	0	0%

OVERALL IMPROVEMENT	NO. OF PATIENTS	%age
Complete Remission	4	29.5%
Marked Improvement	5	34.2%
Moderate Improvement	2	15.2%
Mild Improvement	4	20.9%
Unchanged	0	0%

- **Statistical Significance:** Both groups showed highly significant improvement ($p < 0.0001$) in all parameters.
- **Overall Improvement:** Group A showed a higher mean improvement of **70%** compared to Group B's **57%**.

DISCUSSION

Amavata *is a* ***Madhyama Roga Marga*** disease involving the joints and heart. The trial drug, ***Rasonadi Kwatha***, functions via its ***Lekhana*** (scraping) and ***Amapachana*** (digestive) properties to clear micro-channels. **Pathya Ahara** (such as barley, horse gram, and ginger decoction) stimulates **Agni**, preventing further Ama formation. While both groups improved significantly, the added benefit in Group A confirms that dietary discipline enhances the palliative effect of medication.

Flow chart No.: 1 *SAMPRAPTI VIGHATANA* (PROBABLE MODE OF ACTION)

Nidana Sewana

↓

Agnimandya ← *Deepana*, *Pachana* by *Tikta Katu* Rasa dominancy of

↓ *Drugs* and *Pathya Ahara* stimulate *Agni*, helping digest and metabolise existing *Ama*

Ama formation ← *Tikta, Katu, Ushna Virya* and *Laghu*, *Ruskha Guna* of

↓ Drugs deblock *Ama* formation

Dosha Dushti (Ama +Vata) ← All the Drugs of *Rasonadi Kwatha* are *Vata -Kapha*

Shamaka

↓

Ama in all *Sleshma Sthana* ← *Amashodhana,Deepaneya, Amapachana* properties

(*Dosha- Dushya Samurchna)* of Drugs and properties of *Pathya Ahara*

↓

Produces symptoms of *Amavata* ← *Pathya Ahara* and *Rasonadi Kwatha* Subsided all

↓

like *Shoola, Shotha, Stabdhata* these symptoms due to *Shoolahara, Shothahara*

property

Rog Utpati ← Helped in the management of *Amavata* due to

Deepan, Amapachana, Shoolahara, Shothghana and *Vata*

Anulomana properties of *Pathya Ahara* and *Rasondadi Kwatha*.

DISCUSSION ON RESULTS

The effect of the therapy in this study was assessed on the basis of changes observed in the cardinal features, laboratory findings after completion of the treatment.

1) EFFECT ON *STABDHATA*: - Impact of treatment on both groups w.r.t *Sandhi Stabdhata* has demonstrated statistically significant results.

Group A

Mean values of *Stabdhata* assessed BT and AT were 3.80 and 0.87 respectively and the relief obtained on *Stabdhata* was 86% assessed after treatment which was statistically highly significant with p value ($p<0.0001$) in Group A.

Group B

In Group B, mean values of *Stabdhata* assessed BT and AT were 3.33 and 0.87 respectively and the relief obtained on *Stabdhata* was 80% assessed after treatment which was statistically highly significant with p value ($p<0.0001$).

Sandhi *Stabdhata* is caused due to *Ama* and *Kapha* which does the Avarana of Vata. The significant relief observed may be due to the resolution of Ama in effected parts by the *Ushna Virya* and *Teekshna Guna* and *Amapachan* action of the drugs and the *Pathya Ahara.*

2) EFFECT ON *SANDHISHOOLA*: - Impact of treatment on both groups w.r.t *Sandhi Shoola* has demonstrated statistically significant results.

Group A

Mean values of *Sandhishoola* assessed BT and AT were 3.33 and 0.87 respectively and the relief obtained on *Sandhishoola* 86% was assessed after treatment which was statistically highly significant with p value ($p<0.0001$) in Group A.

Group B

In Group B, Mean values of *Sandhishoola* assessed BT and AT were 3.00 and 1.07 respectively and the relief obtained on *Sandhishoola* 80% was assessed after treatment which was statistically highly significant with p value ($p<0.0001$) *Shoola* is the characteristic feature of vitiated *Vata*. In *Amavata* the *Shoola* is caused due to involvement of *Ama*. This significant relief may be due to the *Vata-Kaphahara, Shoolagna* properties of the *Rasonadi Kwatha* and *Pathya Ahara.*

3) EFFECT ON *SANDHISHOTHA*: - Impact of treatment on both groups w.r.t *Sandhi Shotha* has demonstrated statistically significant results.

Group A

Mean values of *Sandhishotha* assessed BT and AT were 3.20 and 0.73 respectively and the relief obtained on *Sandhishotha* was 93% assessed after treatment which was statistically highly significant with p value ($p<0.0001$) in Group A.

Group B

In Group B, mean values of *Sandhishotha* assessed BT and AT were 2.73 and 0.67 respectively and the relief obtained on Sandhishotha was 86% assessed after treatment which was statistically highly significant with p value ($p<0.0001$).

The *Shotha* is caused due to presence of *Ama* and *Kapha* in the joint space. The significant relief observed in *Shotha* due to the *Shothahara* property of the drugs. Most of the ingredients of the *Rasonadi Kwatha* are *Ushna Virya* which might have digested the *Ama* which was accumulated in *Sandhi's*, thus causing reduction in *Shotha*.

4) EFFECT ON *APAKA*: - Impact of treatment on both groups w.r.t *Apaka* has demonstrated statistically significant results.

Group A

Mean values of *Apaka* assessed BT and AT were 3.40 and 0.40 respectively and the relief obtained on *Apaka* was 66% assessed after treatment which was statistically highly significant with p value ($p<0.0001$) in Group A.

Group B

In Group B, Mean values of *Apaka* assessed BT and AT were 3.33 and 0.33 respectively and the relief obtained on *Apaka* was 66% assessed after treatment which was statistically highly significant with p value ($p<0.0001$).

Apaka is caused due to presence of *Ama* and *Kapha* in the body. *Pathya Ahara* stimulates *Agni*, helping digest and metabolise existing *Ama. Most* of the ingredients of the *Rasonadi Kwatha* are *Ushna Virya* which might have digested the *Ama* which was accumulated in the body.

5) EFFECT ON E.S.R: Impact of treatment on both groups w.r.t ESR has demonstrated statistically significant results.

Group A

Mean values of ESR assessed BT and AT were 68.67 and 23.40 respectively and the relief obtained on ESR was 66% assessed after treatment which was statistically highly significant with p value ($p<0.0001$) in Group A

Group B

In Group B, mean values of ESR assessed BT and AT were 67.20 and 27.67 respectively and the relief obtained on *Apaka* was 50% assessed after treatment which was statistically highly significant with p value ($p<0.0001$).

This indicates that *Rasonadi Kwatha* is effective in reducing the inflammatory process in patients in turn leading to decreasing in the E.S.R.

6) EFFECT ON RA Factor: - Impact of treatment on both groups w.r.t ESR has demonstrated statistically significant results.

Group A

Mean values of R.A Factor assessed BT and AT were 99.93 and 37.53 respectively and the relief obtained on R.A Factor was 86% assessed after treatment which was statistically highly significant with p value ($p<0.0001$) in Group A

Group B

In Group B, mean values of R.A Factor assessed BT and AT were 98.73 and 45.60 respectively and the relief obtained on R.A Factor was 33% assessed after treatment which was statistically highly significant with p value ($p<0.0001$).

7) EFFECT ON CRP: - Impact of treatment on both groups w.r.t CRP has demonstrated statistically significant results.

Group A

Mean values of CRP assessed BT and AT were 31.13 and 8.40 respectively and the relief obtained on CRP was 7 % assessed after treatment which was statistically highly significant with p value ($p<0.0001$) in Group A

Group B

In Group B, mean values of CRP assessed BT and AT were 31.67 and 8.93 respectively and the relief obtained on CRP was 7% assessed after treatment which was statistically highly significant with p value ($p<0.0001$).

COMPARATIVE ANALYSIS OF EFFECT OF THERAPY BETWEEN GROUP A AND GROUP B

The present analysis compared the mean improvements across various clinical parameters between Group A and Group B, including *Sandhi Stabdhata, Sandhi Shoola*, *Sandhi Shotha, Apaka*, ESR, RA, and CRP.

- For ***Sandhi Stabdhata***, both groups had an identical mean score of 0.87, with a T-value of 0.00 and a P-value of 1.000, indicating no difference between them.
- In the case of ***Sandhi Shoola***, Group B showed a slightly higher mean (1.07) compared to Group A (0.87), but the difference was statistically insignificant (T = -1.146, P = 0.271).
- Similarly, ***Sandhi Shotha*** showed a marginally better mean in Group A (0.73) than Group B (0.67), though this difference was also not significant (T = 0.250, P = 0.806).
- For ***Apaka***, Group A recorded a mean of 0.40, while Group B had 0.33, with no significant difference (T = 0.269, P = 0.792).
- Regarding biochemical markers, **ESR** values were slightly higher in Group A (28.47) than in Group B (27.67), but the T-value of 0.757 and P-value of 0.461 again indicated non-significance.
- The **RA** scores showed a minor difference (47.13 for Group A vs. 45.60 for Group B), which was statistically insignificant (T = 0.939, P = 0.364).
- Lastly, **CRP** levels were slightly lower in Group A (8.40) compared to Group B (8.93), but this difference too was not significant (T = -0.866, P = 0.401).
- Overall, the statistical analysis revealed that there were no significant differences between Group A and Group B across any of the measured parameters, suggesting that both groups experienced comparable levels of improvement.

COMPARATIVE ANALYSIS OF OVERALL EFFECT OF THERAPY BETWEEN GROUP A AND GROUP B

Overall Assessment of Therapy was assessed based upon Significance of Paired T-Test values in Subjective Parameters and Objective Parameters.

Considering Overall Improvement Shown By Patients In Sign And Symptoms, Total Effect Of Therapy Was Noticed That There Was **70%** Improvement In Group A and **57%** Improvement In Group B.

CONCLUSION

Both Pathya Ahara and Rasonadi Kwatha are potent interventions for managing Amavata. However, ***Pathya Ahara along with Rasonadi Kwatha*** **is significantly more effective** than the drug alone, yielding

better clinical outcomes and laboratory results. Proper adherence to Ayurvedic diet and lifestyle is essential for the management of Rheumatoid Arthritis.

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