

AN AYURVEDIC CLINICAL RESEARCH ON AUTOIMMUNE DISORDER –  
RHEUMATOID ARTHRITIS<sup>1</sup>\*Dr. Jeena George and <sup>2</sup>Dr. C. V. Rajashekhar<sup>1</sup>Final Year Pg Scholar, Dept. of Kayachikitsa, Sri Kalabhairaveshwara Swamy Ayurveda Medical College and Research Center, Bangalore.<sup>2</sup>Professor and HOD, Dept. of Kayachikitsa, Sri Kalabhairaveshwara Swamy Ayurveda Medical College and Research Center, Bangalore.

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## ABSTRACT

**Title** - “An open label single arm study to evaluate the combined efficacy of *Hinguvadi churna* and *Erandamooladi niruha basti* in *Amavata* vis-a vis Rheumatoid Arthritis.” **Background and Objectives** – *Amavata* is a disease caused due to the vitiation of *vata* and *ama*. Vitiating *vata* Propels *ama* throughout the body through *Dhamanis* and takes *ashraya* in the *shleshma sthana* especially in *sandhis*.<sup>[1]</sup> Rheumatoid Arthritis is one among the disease which can be brought under the umbrella of *Amavata* due to the prevalence such a way that both *samprapthi vighatana* and symptomatic relief can be achieved. Keeping this in mind, the present study was planned an open label single arm study to evaluate the combined efficacy of *Erandamooladi Niruha Basti* and *Hinguvadi choorna* in the management of *Amavata*. **Methods** – 30 subjects of Rheumatoid Arthritis was selected from OPD and IPD of SKAMCH&RC Bengaluru and taken into single group. **Results** – The effect of treatment in the group were assessed by applying Wilcoxon Singed Rank test and paired t test for within the group analysis showed statistically highly significant result with P value (<0.001). **Interpretation and Conclusion** – It can be concluded from the study, the combined efficacy of *Erandamooladi niruha basti* and *Higuvadi Churna* has given good result in the management of *Amavata* vis-a-vis Rheumatoid Arthritis.

**KEYWORDS:** *Amavata*, Rheumatoid Arthritis, *Erandamooladi Niruha Basti*, *Hinguvadi Churna*.

## INTRODUCTION

*Ayurveda*, the science of life emphasize mainly on two goals such as maintenance of health and the curing of the ailment. *Amavata* (Rheumatoid Arthritis) is one of the challenging diseases thus developed due to the unhealthy habits and unawareness of the importance of maintaining health, equilibrium of *Agni* and *Doshas*. *Amavata* is the prime disease which makes the person crippled and unfit for an independent life. It possess a challenge to the physicians due to its chronic nature, difficulty, complications. The term *Amavata* is originated from the words *Ama* and *Vata*. The assay mark of *Amavata* is the progressive pathological influence of *Ama* and *Vata* in the synovial joints and the resultant degeneration of joints. The sign and symptoms of *Amavata* are more or less resembling with Rheumatoid Arthritis.

Rheumatoid Arthritis is a chronic inflammatory disease of unknown etiology marked by a symmetric, peripheral polyarthritis.<sup>[2]</sup> It is the most common form of chronic inflammatory arthritis and often results in joint damage and physical disability. The prevalence of Rheumatoid arthritis is approximately 1% of the global population and in Indian population it is around 0.9%; Women are

affected 3 times more often than men.<sup>[3]</sup> The incidence of Rheumatoid Arthritis increases between 25 and 55 yrs of age; hence it hampers with the creative years of life. Despite the awareness of the disease, proper explanation for the cause and source of Rheumatoid Arthritis are still obscure in modern science. Hence no rational curative measures are known. Anti-inflammatory analgesics and Disease Modifying Anti Rheumatic Drugs are the drugs of choice in contemporary system of medicine. The *Ayurvedic* line of treatment defends a good deal on the pathogenesis and the stage of disease. *Ayurveda* emphasizes *Shodhana* (purificatory) and *Shamana* (curative) treatments in *Amavata*. Among *Shamana oushadhis*, many preparations are with easily available and cost effective ingredients which is an important factor considering the chronicity in the disease pathogenesis and hence need for a prolonged duration of the treatment. Here a sincere attempt has been made to provide a better management of RA, considering the need of the present study entitled, “An open label single arm study to evaluate the efficacy of *Hinguvadi choorna* *Erandamooladi niruha basti* in *Amavata* vis-a-vis Rheumatoid Arthritis” is found beneficial in alleviating the signs and symptoms of the above condition.

## OBJECTIVE OF THE STUDY

To evaluate the combined efficacy of *Hinguvadi churna* and *Erandamooladi niruha basti* in the management of *Amavata* vis-à-vis Rheumatoid Arthritis.

## MATERIALS AND METHODS

### A. Source Of Data

#### a) Literary source

- Available e- book and imprint resources related to Ayurveda and contemporary science about disease, therapy and drugs are documented for the intended study.

#### b) Sample source

- Minimum of 30 subjects with clinical features of *Amavata* (Rheumatoid Arthritis) coming under the inclusion criteria approaching the OPD and IPD of SKAMCH&RC, Bengaluru was selected for the study.
- The sample collection was initiated with post approval from the Institutional Ethics Committee.

#### c) Drug Source

The identified raw drugs required for the clinical study were purchased from approved vendors and post purchase of the raw drugs were authenticated by the faculty of *Dravya Guna*, Sri Kalabyraveshwara Swamy Ayurvedic Medical College Hospital & Research Centre, Bengaluru.

The formulation was prepared in the Department of *Rasa shastra* and *Bhaishajya kalpana* of Sri Kalabyraveshwara Swamy Ayurvedic Medical College Hospital & Research Centre, Bengaluru under the guidance.

### B. Method of Collection of Data

#### 1) Study Design

Open label single arm study.

#### 2) Sampling Technique

- The subjects who fulfill the Inclusion and Exclusion criteria and complying with the informed consent (IC) were selected by simple random sampling technique.

#### 3) Sample Size

- Subjects Diagnosed as *Amavata* (Rheumatoid Arthritis) of either gender was assigned into single group comprising of 30 subjects

### D. Inclusion Criteria

- Subjects presenting with *lakshanas* of *Amavata* were selected.
- Subjects presenting with the signs and symptoms of Rheumatoid Arthritis were selected.
- Subject of age group 20-60 years irrespective of gender.
- Persons who are indicated for *basti karma* (enema therapy).

### E. Exclusion Criteria

- Subjects with other systemic and metabolic disorder such as Diabetes and Hypertension which interfere with the treatment.
- Subjects presenting with complications of Rheumatoid Arthritis.
- Persons who are not indicated for *basti karma*.

### F. Investigations

- Blood for Hb %
- Total Count
- Differential Count
- Erythrocyte Sedimentation Rate
- Rheumatoid factor
- Anti citrulinated protein antibody
- C-reactive Protein
- RBS

### G. Intervention

- The study was intervened for a duration of 16 days.
- Minimum of 30 subjects with *Amavata* (RA) were selected.

### Administration of Drug

- *Hinguvadi churna*<sup>[4]</sup> orally 6 gm per day, 2gmTID, B/F with ushnajala *anupana* for 8 days was given.

### *Eranda Mooladi Niruha Basti* <sup>[5]</sup> (Yoga Basti Pattern-8 days)

#### *Poorvakarma*

- *Abyanga-stanika abyanga* (oilation) with *moorchita tila taila*.
- *Swedana-Nadi sweda* (sudation)

#### *Pradana karma*

Table no. 1: Ingredients and quantity of *Basti*.

<i>Eranda Mooladi Niruha Basti</i>	
<i>Anuvasana Basti</i>	
<i>Bruhat Saindhavadi taila</i>	100 ml
<i>Niruha Basti</i>	
Ingredients	Matra (Dose)
1 <i>Makshika</i>	30 ml
2 <i>Saindhava Lavana</i>	10 gm
3 <i>Bruhat saindhavadi Taila</i>	80 ml
4 <i>Kalka Choorna</i>	25 gm
5 <i>Eranda mooladi Qwatha</i>	400 ml
6 <i>Go mutra</i>	50 ml

The procedure was done in *Yoga Basti* pattern.

Table no. 2:

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8
A	N	A	N	A	N	A	A

A-Anuvasana Basti

N- Niruha Basti

#### Paschat karma

- Lift the legs, patting to the buttocks, and anticlockwise massage to the abdomen.

Total duration of study: 16 Days.

#### Assessment criteria

The clinical findings were noted in specially designed case proforma and assessment was done on Day 1 (Before intervention), Day 8 (After *erandamooladi niruha basti* along with oral medication), and Day 16 (Follow Up-After the completion of the course of intervention). The assessment was done based on Subjective and Objective parameters, which include diagnostic parameters as per CCIM for the clinical

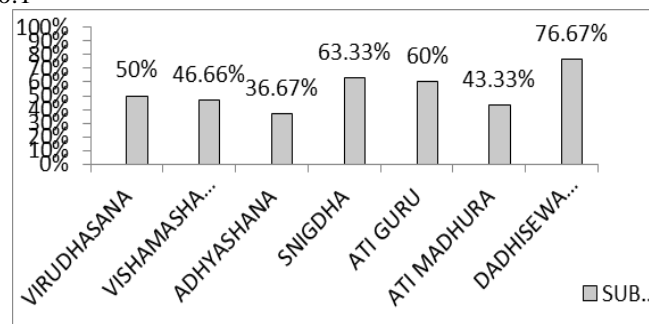
symptoms, VAS(visual analog scale) , numerical rating scale, RAPID 3 (Routine Assessment of patient Index Data )score, grip strength, pressing power, foot pressure and basti samyak lakshana(symptoms of proper administration).

#### OBSERVATION

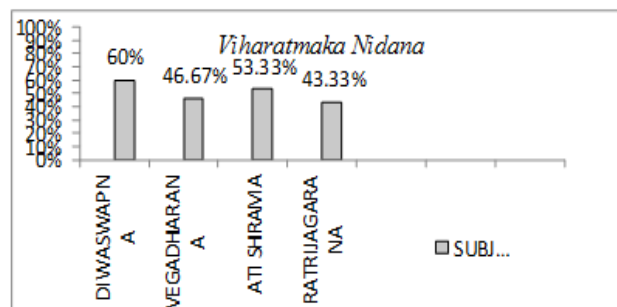
Out of 36 subjects registered, 30 subjects completed the research study. Maximum people fall under 30-40 years of age group(11 in number) with female ratio more(3:2). Majority of subjects indulge in mixed diet (26), day sleep(19), and was vata- kapha prakruti.

Observation on nidana (etiological factors)

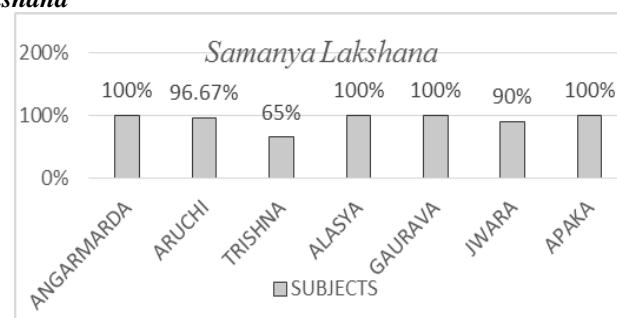
Aharatmaka nidana: graph no:1



Viharatmaka nidana graph no :2



Observation on *samanya lakshana*



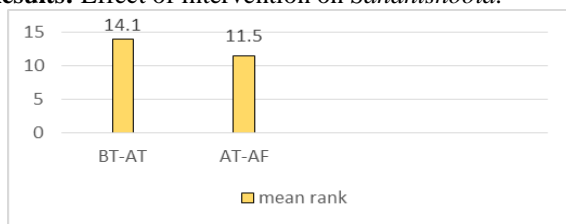
Graph no:3

Observation on pravrudha amavata lakshana

**Table no: 3.**

<i>Pravruddha Amavata Lakshana</i>	Total					
	<i>Sandhi Shoola</i>		<i>Sandhi Shotha</i>		<i>Sparsha Asahishnuta</i>	
<i>Hasta</i>	30	100%	28	93.33%	27	90%
<i>Pada</i>	27	90%	27	90%	27	90%
<i>Gulpha</i>	23	76.66%	20	66.66%	20	66.66%
<i>Trika</i>	20	66.66%	20	66.66%	20	66.66%
<i>Janu</i>	30	100%	30	100%	30	100%
<i>Agni Dourbalya</i>	28		93.33%			
<i>Utsahahani</i>	30		100%			
<i>Vairasya</i>	25		83.33%			
<i>Bahumutrata</i>	9		30%			
<i>Nidra Viparyaya</i>	25		83.33%			
<i>Kukshishoola</i>	3		10%			
<i>Vidbaddhata</i>	2		6.66%			

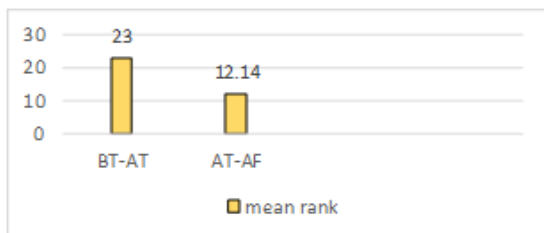
**Results:** Effect of intervention on *Sandhishoola*.



**Graph no 4.**

Effect of intervention on *Sandhishotha* from BT-AT was found statistically Highly Significant ( $Z = -4.80$ ,  $p = 0.001$ ), there was persistent medicinal effect on AT-AF which was found statistically highly Significant ( $Z = -4.57$ ,  $p = 0.001$ )

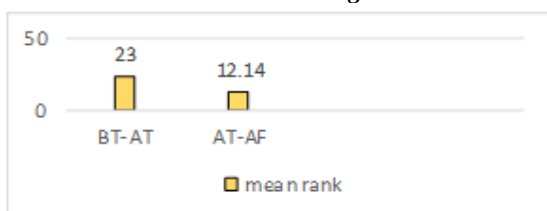
**Effect of Intervention on Sparshaasahishnuta.**



**Graph no: 5.**

Effect of intervention on *Sparshaasahishnuta* from BT-AT was found statistically Highly Significant ( $Z = -4.90$ ,  $p = 0.001$ ), there was persistent medicinal effect on AT-AF which was found statistically highly Significant ( $Z = -4.13$ ,  $p = 0.001$ )

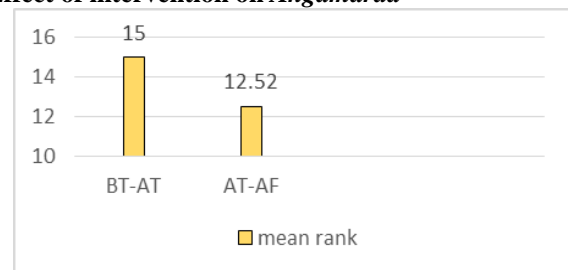
**Effect of intervention on Stabdthagatratha.**



**Graph no: 6.**

Effect of intervention on *Stabdthagatratha* from BT-AT was found statistically Highly Significant ( $Z = -4.90$ ,  $p = 0.001$ ), there was persistent medicinal effect on AT-AF was found statistically highly Significant ( $Z = -3.50$ ,  $p = 0.0012$ )

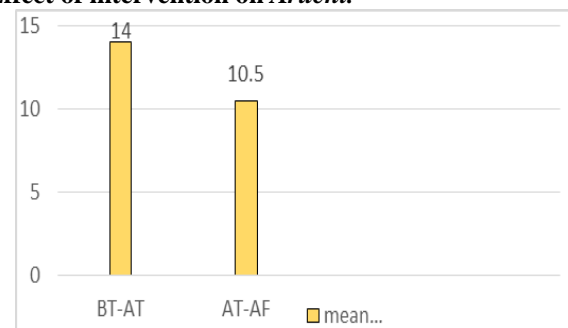
**Effect of intervention on Angamarda**



**Graph no: 7.**

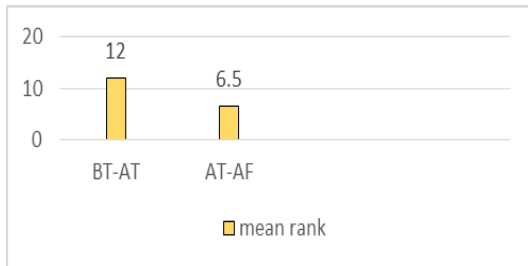
Effect of intervention on *Angamarda* from BT-AT was found statistically Highly Significant ( $Z = -4.86$ ,  $p = 0.001$ ), the persistent medicinal effect on AT-AF was found statistically highly Significant ( $Z = -4.42$ ,  $p = 0.001$ )

**Effect of intervention on Aruchi.**

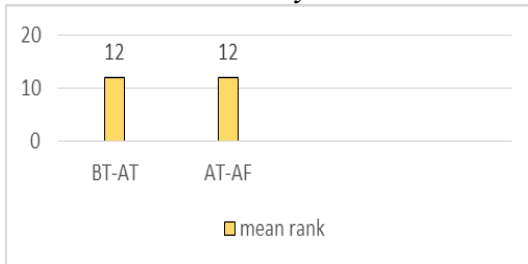


**Graph no: 8.**

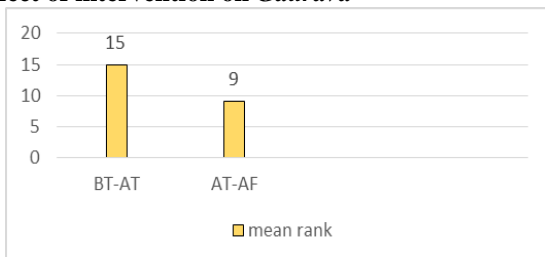
Effect of intervention on *Aruchi* from BT-AT was found statistically Highly Significant ( $Z = -4.60$ ,  $p = 0.001$ ), the persistent medicinal effect on AT-AF was found statistically highly Significant ( $Z = -4.24$ ,  $p = 0.001$ )

**Effect of intervention on subjective Parameter *Trushna*.****Graph no: 9.**

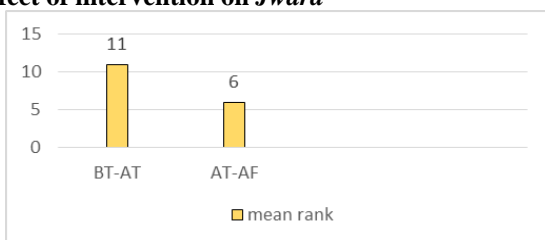
Effect of intervention on *Trushna* from BT-AT was found statistically Highly Significant ( $Z = -4.38$ ,  $p = 0.001$ ), the persistent medicinal effect on AT-AF was found statistically highly Significant ( $Z = -3.46$ ,  $p = 0.001$ )

**Effect of intervention on *Alasya*****Graph no: 10.**

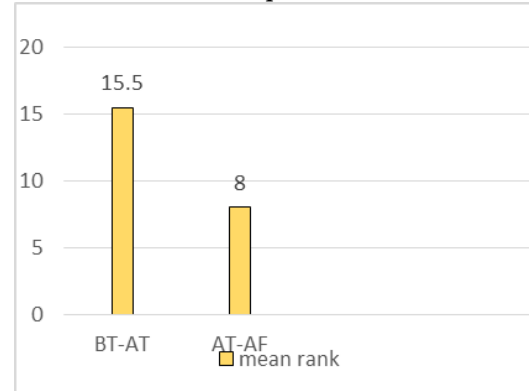
Effect of intervention on *Alasya* from BT-AT was found statistically Highly Significant ( $Z = -4.796$ ,  $p = 0.001$ ), the persistent medicinal effect on AT-AF was found statistically highly Significant ( $Z = -4.564$ ,  $p = 0.001$ )

**Effect of intervention on *Gaurava*****Graph no: 11.**

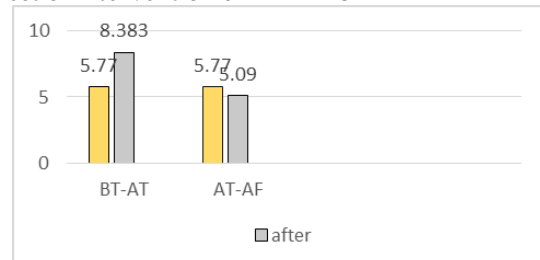
Effect of intervention on *Gaurava* from BT-AT was found statistically Highly Significant ( $Z = -4.90$ ,  $p = 0.001$ ), the persistent medicinal effect on AT-AF was found statistically highly Significant ( $Z = -4.12$ ,  $p = 0.001$ )

**Effect of intervention on *Jwara*****Graph no: 12.**

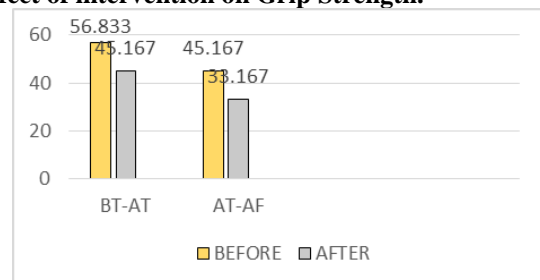
Effect of intervention on *Jwara* from BT-AT was found statistically Highly Significant ( $Z = -4.09$ ,  $p = 0.001$ ), the persistent medicinal effect on AT-AF was found statistically highly Significant ( $Z = -2.11$ ,  $p = 0.017$ )

**Effect of intervention on *Apaka*****Graph no: 13.**

Effect of intervention on *Apaka* from BT-AT was found statistically Highly Significant ( $Z = -4.95$ ,  $p = 0.001$ ), the persistent medicinal effect on AT-AF was found statistically highly Significant ( $Z = -4.60$ ,  $p = 0.001$ )

**Effect of intervention on *RAPID3*****Graph no: 14.**

Effect of intervention on *RAPID3* from BT-AT was found statistically Highly Significant ( $t = 10.553$ ,  $p = 0.0011$ ), the persistent medicinal effect on AT-AF was found statistically highly Significant ( $Z = 6.934$ ,  $p = 0.0011$ )

**Effect of intervention on Grip Strength.****Graph no: 15.**

Effect of intervention on Grip Strength from BT-AT was found statistically Highly Significant ( $t = 6.115$ ,  $p = 0.001$ ), the persistent medicinal effect on AT-AF was found statistically highly Significant ( $Z = 5.422$ ,  $p = 0.001$ )

## DISCUSSION

*Ama* and *vata* are the two major components in the pathogenesis of *amavata*. The *ama* is best treated by ununctuous measures. Contrary to this the *vata dosha* gets alleviated by ununctuous treatment. Thus, the treatment of these two major components is contradictory posing difficulty in planning the treatment. Hence a balanced approach that clears the *ama* and pacifies the *vata dosha* is effective in the management of *amavata*.

*Hinguvadi churna* is explained under *amavata rogadikara* according to *bhaishajya ratnavali* and *chakradatta*. All the ingredients having *ushna veerya*, thus it acts as *amapachana* and *deepana* in action. *Hinguvadi churna* is having antipyretic, anti-inflammatory and analgesic action. For *amaja vikaras* and *rasapradoshaja vikaras langana* is the first line of treatment. Here *hinguvadi* will do *langhana* in terms of *pachana*.

*Erandamooladi niruha basti* is *deepana lekha* in action and it pacifies *janga*, *uru*, *pada trika prishta shoola* and is *kapha vatahara* in action, thus effective in this condition. Research studies in *gomutra* proves, improvement in conditions like allergies, rheumatoid arthritis, viral infections tuberculosis etc. it can promote the bioavailability or bioactivity or the uptake of drugs in combination therapy and reduce the dose and duration of the treatment.

*Brihat saindhavadi taila* <sup>[6]</sup> used as *anuvāsana basti*. It is multi herbo mineral oil which contains fourteen important herbs, three types of *lavana* and *kshara* in equal quantity and *mastu*, *kanji*, *kwata* and *erandataila* in one *prasta* quantity. the majority of the drugs are *katu* and *tikta* rasa *pradana*. *katu* is *vatakapha shamaka* and *tikta* is *pittakapha shamaka*. *katu* rasa is *agnideepaka* and *amapachaka* in action. hence combination of these drugs having *katu* and *tikta* rasa are useful in *amavata*. in this formulation 82% drugs are having *ushna veerya*. Thus *swedavarodha*, *anaha*, *shotha*, *vibhanda* is pacified by *ushna veerya*. *Rasna* is having *vatashamaka*, *amapachana*, *vedanastapana*, *shotagna* properties.

The base of *brihat saindhavadi taila* is *eranda taila* which is having *vatakaphahara*, *deepana*, *bhedana*, *krimigna*, *amashodana*, *shrotovishodana*, *shotahara*, *vrushya*, *kushtagna*, and *angamarda prashamana* properties. It acts by the formation of alkali *ricinoleate* as a result of saponification in the *dueodenum* which gently stimulates the intestines glands and peristalsis and is painless, speedy, certain and fairly mild purgative operating within 2-6 hours leading to 2-4 loose motions. The combination of these drugs causes digestive, hepatoprotective and laxative properties.

*Ushnajala* is having the properties of *deepana*, *pachana*, *laghu*, *ushna* and *bastishodaka*. It does *agnideepana* and *amapachana*.

Because of these properties, the combined administration of *hinguvadi churna* and *erandamooladi niruha basti* shows significant result in this study.

## CONCLUSION

*Amavata* is a *Madhyama Rogamarga Vyadhi* presenting with *Sandhioshoola*, *Sandhishotha*, *Sandhistabdata* along with *Samanya* and *Pravrudha Amavata Lakshana*. In the present study, maximum patients were married females belonging to middle-class family, belonging to Hindu religion and *Vata kapha prakruthi*, *Madhyama Sara*, *Samhanana*, *Satwa* and *Pramana* along with *Avara Abhyavarana Shakti*, *Jarana Shakti* and *Vyayama Shakti*.

The intervention employed in this study was combined administration of *Hinguvadi churna* and *yogabasti* - *Brihat saindavadya taila anuvāsana* and *Erandamuladi niruha* with *gomutra* as *avapa dravya*. All the assessment parameters- *Angamarda*, *aruchi*, *trishna*, *alasya*, *gaurava*, *jwara*, *apaka*, *RAPID3* score and grip strength showed statistically highly significant results.

Hence the following alternate hypothesis can be accepted. There is efficacy in the combined administration of *Hinguvadi churna* and *yogabasti* (with *Erandamuladi niruha* and *Brihat saindavadya taila anuvāsana*) in *Amavata vis-à-vis Rheumatoid Arthritis*.

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