

**COMPARITIVE STUDY OF GHRITBHRISHTA HARIDRA &
RASAMANIKYA WITH DIETHYL CARBAMAZINE IN VATAJ KASA
W. R.T. EOSINOPHILIA**

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ABSTRACT

Background: The prevalence of vatajakasa (dry cough) vis-à-vis Pulmonary Eosinophilia is remarked. High eosinophil count in dry cough often indicates an allergic condition. Conventional medicine for dry cough is symptom based without consistent benefits with side effects like drowsiness and lethargy. Considering the prevalence and long term treatment for allergic dry cough, there is need to investigate drug with better result with no side effect. **Aim:** To evaluate the anti allergic effect of ghrithbhrishta haridra and Rasamanikyain comparison with diethyl carbamazine in cases of Vataj Kasa (Dry cough) – eosinophilia. **Materials and Methods:** In this study, 60 patients of vatajakasa were randomly divided into two groups (30 in each). In Group A (control)-100mg of Diethyl Carbamazine was administered twice a day. Experimental Group B was given 6 gms Haridra

(Curcuma longa linn.) roasted in Ghee combined with Rasamanikyaya (200 mg) twice a day for 21 days. Findings were recorded at weekly intervals. After treatment, comparison was done using wilcoxins rank test as well as before and after treatment results were calculated using paired and unpaired “t-test”. **Results:** Significant results ($P < 0.05$) were found in both groups. Reduction in eosinophil count ($P = 0.05$), and dry cough (18.96%) was found in group B as compare with group A (7.75%). Recurrence rate was less in Group B (2.58%) as

compare with group A (1.72%) after 3 months. **Conclusion:** Ghrita Bhrishta Haridra and Rasamanikyamay reduce eosinophil count and also stops recurrence with better symptomatic relief in vatajakasa.

KEYWORDS: Vataj kasa, Eosinophilia, Ghrita Bhrishta Haridra, Rasamanikya, Diethyl carbamazine.

INTRODUCTION

Vataja Kasa (dry cough) is a condition of Pranavaha Strotasa (respiratory tract) caused due to vitiation of Vata Dosha due to exposure to some factors like Dhur (dust), Dhuma (smoke), Raja (pollens) / allergens, too dry or cold food stuffs or environment.^[1,2]

The main symptom of Vataj Kasa are recurrent paroxysms of kasa (dry cough), Urashoola (chest pain), Sheerahshoola (headache), Udarashoola (pain in abdomen), prushthashoola (backache), Mukhashushkata (dryness of mouth), Swarabheda (change in voice) Fainting, swarabheda (Change in voice) and daurbalya (General weakness).^[3] If these symptoms are untreated, it may lead to Bronchitis, Asthma or even Tuberculosis (Kshayaj & Kshataj Kasa)^[4]

Occasionally, patients suffering from dry cough for long duration show an increase in eosinophil count. The number of eosinophilic leucocytes $> 400/\mu\text{l}$ is referred to as eosinophilia.^[5] A high eosinophil count often indicates an allergic condition or a parasitic infection, allergic reaction, auto immune disease, adrenal insufficiency or common skin disease.^[6,6]

Eosinophilia due to allergic disorders or parasitic infestation is best treated with Diethyl Carbamazine (DEC) in dose of 6mg/kg of body weight (100mg) for 21 days.^[7] Conventional medicine for this is entirely symptom based with drugs like antihistamines, Decongestants, NSAID's and Steroids, without consistent benefits with lot of side effects like drowsiness, lethargy and reduced immunity.^[8] Thus, there is need to find out drug which gives better results without side effects. Based on literature review, this clinical research was carried out to assess the efficacy of ghrutabrishta haridra and rasamanikya in vatajakasa.

In Ayurveda, Haridra (*curcuma longa linn*) is the most widely used, popular, and easily available herb in cough and cold. Moreover, anti-allergic and disinfectant property of Haridra is well established.^[9] Sneha is indicated in treatment of Vataj Kasa to pacify vitiated Vata

dosha.^[10] Goghrita is one of the snehas which pacifies all three doshas and have a yogwahi (catalytic agent) and rasayana property^[11], Thus, Goghrita will pacify vata dosha, increase the potency and reduce the ruksha guna (dryness) of Haridra. Further, Rasamanikya is also indicated in kasa which is prepared by using purified Hartal (Arsenic) & Purified Abhraka (Mica).^[12,13] Also, Weingarten (1943) described dramatic response to organic arsenical on tropical pulmonary eosinophilia where one of the drug is Rasamanikya^[14,15,16].

AIMS AND OBJECTIVES

- To assess the efficacy of Ghritbhrishta haridra and Rasamanikya in VatajaKasa.
- To evaluate the anti allergic effect of ghritbhrishta haridra and Rasamanikya in comparizon with diethyl carbamazine in cases of Vataja Kasa (Dry cough) –eosinophilia.
- To observe the side effects if any.

MATERIALS AND METHODS

Study design

This study was carried out in OPD, Pakvasa Samanvay Rugnalaya, Shree Ayurveda Mahavidyalaya, Nagpur. 60 patients fulfilling the inclusion criteria of Vataja Kasa were selected for the study. Study was carried out with prior permission of ethical committee. Written consent was taken before the trial. Patients were divided into two groups, Group A as a contol group & Group B as a experimental group. Patients were screened based on below parameters.

Inclusion criteria

1. Patient aged between 15-60 yrs
2. Patients having recurrent paroxysms of unproductive cough(VatajaKasa) with raised eosinophil count (>6%).

Exclusion criteria

1. Patients with other systemic disorders.
2. Patients aged below 15 yr & above 60 yrs.
3. Pregnant and lactating ladies.
4. Patients with hormonal disorders & malignancies.
5. Patientswith other chronic& infective disorders of respiratory system like tuberculosis, pneumonitis (major pulmonary disorders).

In control group A, 100 mg of Diethyl Carbamazine was administered twice a day for 21 days after meal. Experimental Group B was given with 6 gms of Haridra roasted in Ghee (Self prepared after drug authentication) combined with 200 mg of Rasamanikya (Baidyanath company) twice a day with lukewarm water after meal for 21 days. Patients were asked to follow appropriate pathya. Follow up was taken at the interval of 0, 7, 14, 21 days. After 3 months, patients were examined again to check the recurrence of the symptoms if any.

The clinical symptoms such as Kasa (dry cough), Urashoola (chest pain), Sheerashoola (headache), Udarashoola (pain in abdomen), parshwashoola (pain on lateral sides of chest), Mukhashushkata (dryness of mouth), Swarabheda (change in voice) and eosinophil count were recorded at weekly intervals till 21 days and after 3 months. Criteria for assessment is given in (Table).

Subjective parameters

Table 1: Grading system of VatajaKasa to assess the response of drug.

Sr.No.	Symptoms	Grade 0	Grade I	Grade II	Grade III
1	Kasa (Recurrent paroxysms of dry cough)	<5 paroxysms of cough/24 hrs	>5 paroxysms of cough/24 hrs	>10 paroxysms of cough/24 hrs	Continuous paroxysms of cough/24 hrs altering daily routine work
2	Urahshool (Chest pain)	No pain	Present only during coughing	Present intermittently; irrespective of coughing; not affecting routine work	Present continuously irrespective of coughing; affecting normal routine work
3	Shirashool (Headache)				
4	Udarashool (Pain in abdomen)				
5	Parshwashool (pain on lateral sides of chest)				
6	Mukhashushkata (Dryness of mouth)	No dryness of throat	Mild thirst	Thirst that can be controlled	Thirst that cannot be controlled
7	Kantihinata (Paleness)	No signs of Pallor	Mild pallor (+) on conjunctiva, face and hands	Moderate pallor (++) on conjunctiva, face and hands	Severe pallor (+++) on conjunctiva, face and hands
8	Fainting	Never feeling Fatigued	Feeling fatigued twice or thrice a week	Feeling fatigued after few minutes or hours in day	Feeling fatigued always
9	Swarabheda (Alteration in voice)	Normal voice	Diminished	Whispering (Mimic)	Hoarseness
10	Balakshaya (General weakness)	No weakness	Mild weakness	Moderate weakness	Severe weakness

Statistical analysis

Statistical analysis of symptomatic relief in patients, in both groups was done by applying Wilcoxon's rank test, Z-value calculated, probability found from z-value and the significance tallied.

Statistical analysis of eosinophil count in both groups was done by applying paired and unpaired "t-test" before and after treatment.

RESULTS

In present study out of 60 patients, distribution was as below:-

- 45 male (75%) and 15 female (25%) were enrolled.
- Maximum patients were found of age group 30-45 yrs. 43.33% in group A and 36.67% in group B.
- In total 53.33% were non vegetarian, 33.33% were vegetarian and 13.33% belong to mixed diet category.
- 21.67% were drivers by occupation, 30% were labor, and 18.33% were businessmen other were service men. (Figure 1)
- In total 50% patients belong to lower income class, 26.67% middle class 21.67% higher class. (Figure 2)
- 52.33% patients were living in poor hygienic condition and 25% in medium hygienic condition. (Figure 3)
- Maximum patients had addiction of tobacco chewing and smoking (45%). 31.67% Patients were alcohol addict.(Figure 4)
- According to chronicity maximum patients (28.33%) were having history of dry cough from above 4 yrs. 25% patients had history from 3-4 yrs and 16.67% patients had history from 2-3 yrs. (Figure 5)
- Distribution of patients according to symptoms observed before treatment in both groups are shown in (Figure 6 **Error! Reference source not found.**). 100% patients i.e. 30 in each group were suffering from dry cough. 86.2% in gp A and 73.5% in gp B were having complaints of chest pain.
- Distribution of patients according to symptoms observed after treatment in both groups. (Figure 7)
- Weekly follow up of group A after treatment is shown in (Figure 8)

- Weekly follow up of group B after treatment is shown in (Figure 9Error! Reference source not found.)
- Comparison of relief of all symptoms in Group A & B is shown in (Figure 10)
- Stastical analysis of eosinophil count in both group was done by applying paired and unpaired “t-test” before and after treatment and calculated significance is shown in (Table 1).
- Stastical analysis of symptomatic relief in Group A is shown in (
- Table 2)
- Stastical analysis of symptomatic relief in Group B (Table 3)

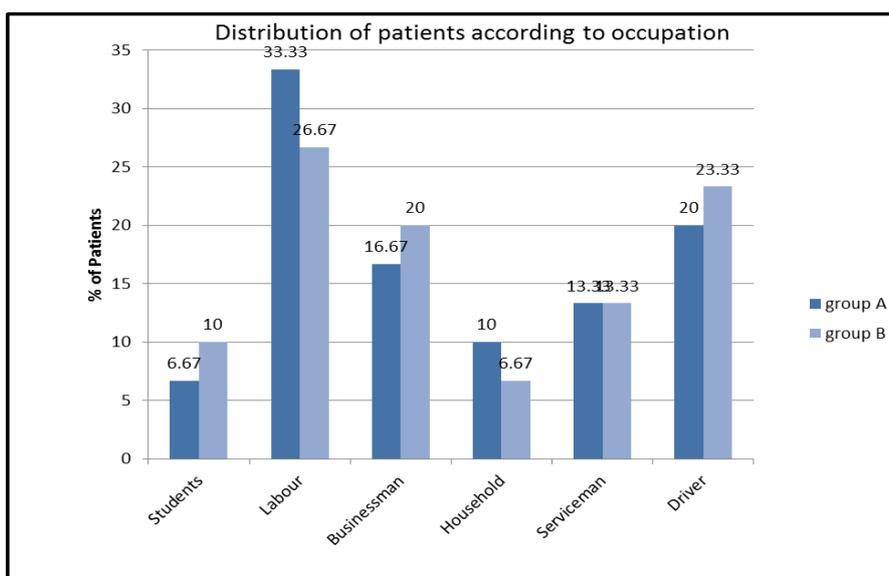


Figure 1: Distribution of patients according to occupation

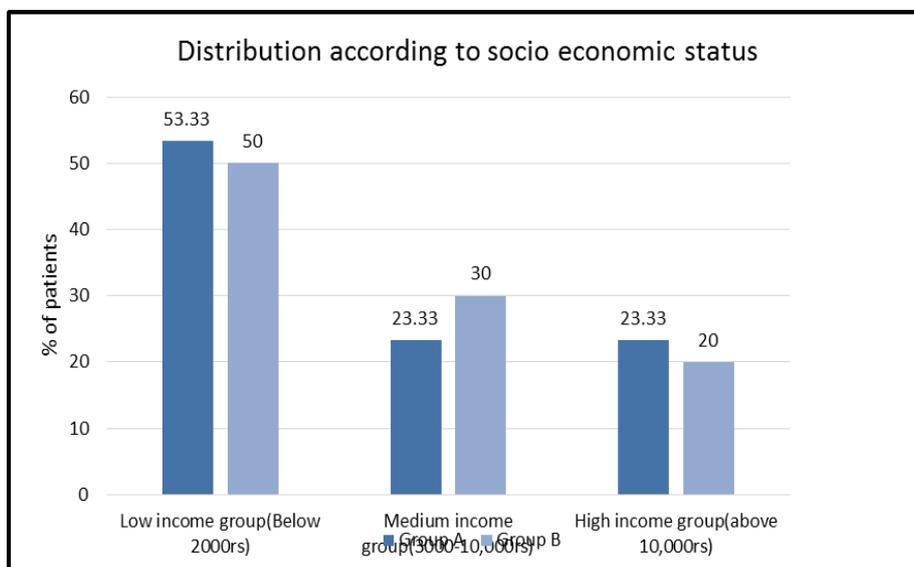


Figure 2: Distribution of patients according to socioeconomic status

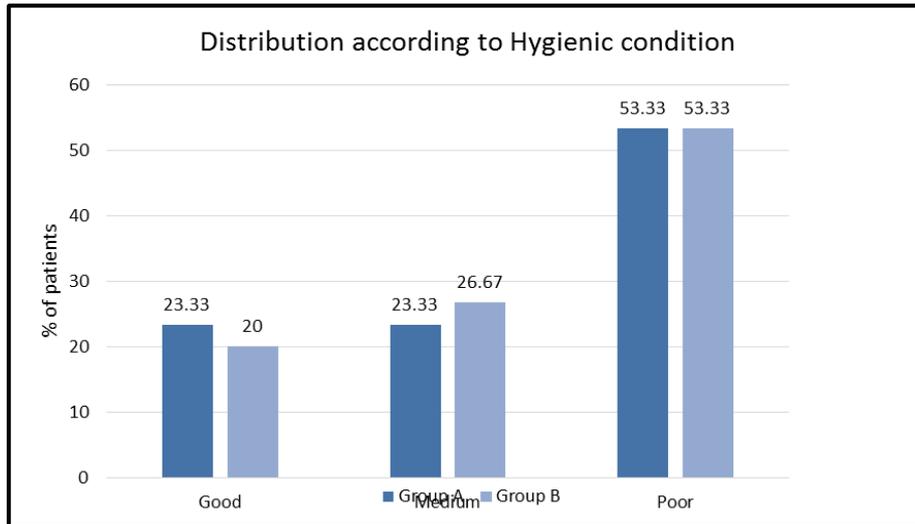


Figure 3: Distribution of patients according to hygienic condition

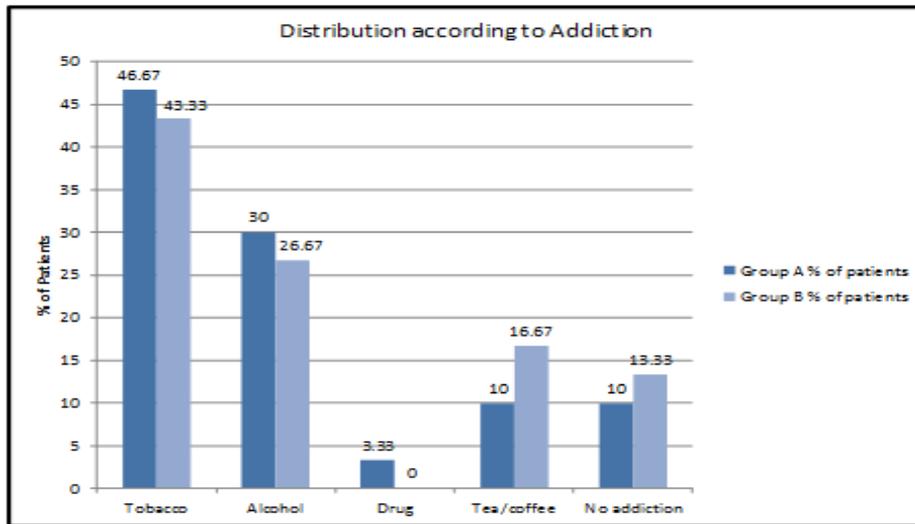


Figure 4: Distribution according to Addiction

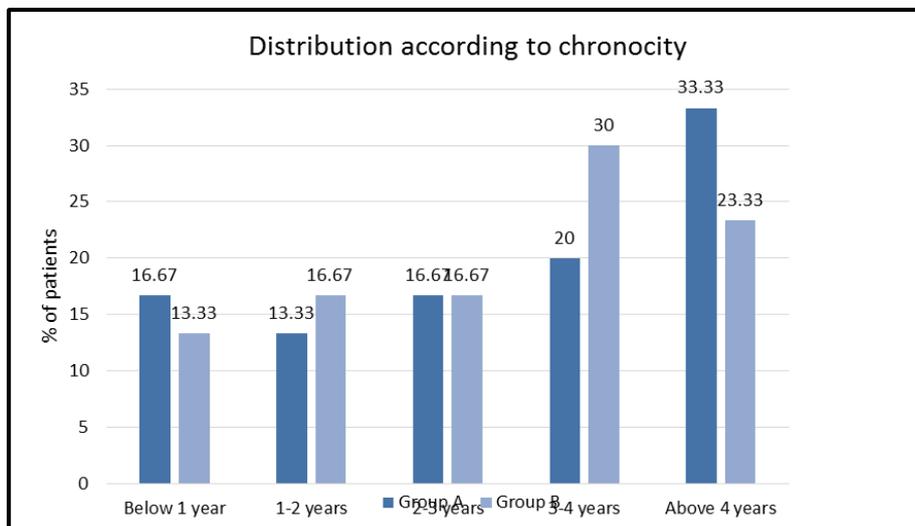


Figure 5: Distribution according to chronicity

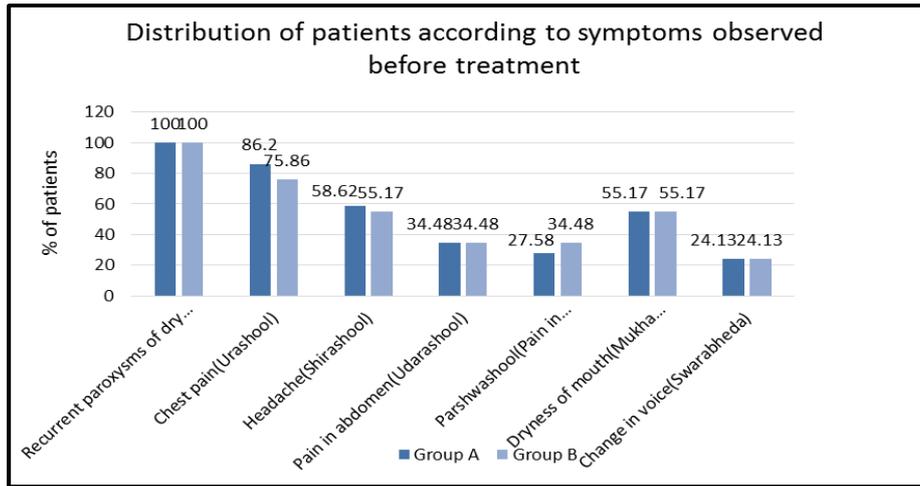


Figure 6: Distribution of patients according to symptoms observed before treatment in both groups

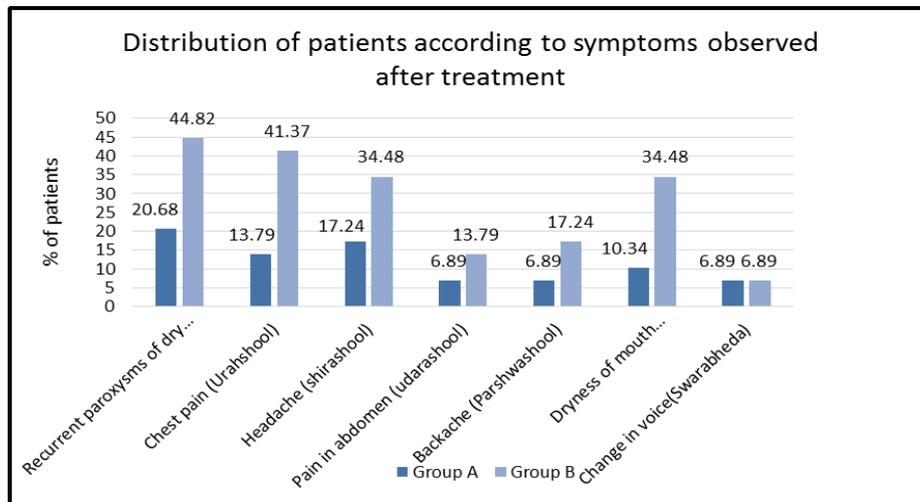


Figure 7: Distribution of patients according to symptoms observed after treatment in both groups

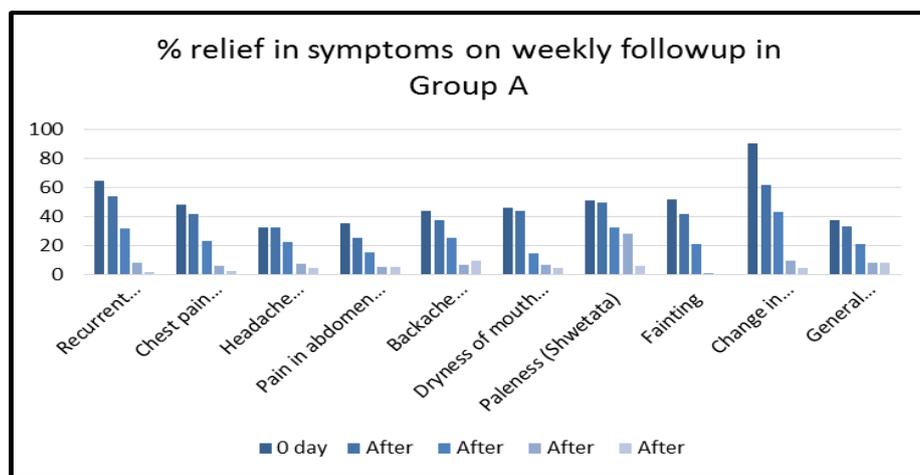


Figure 8: % relief in symptoms on weekly follow-up in Group A

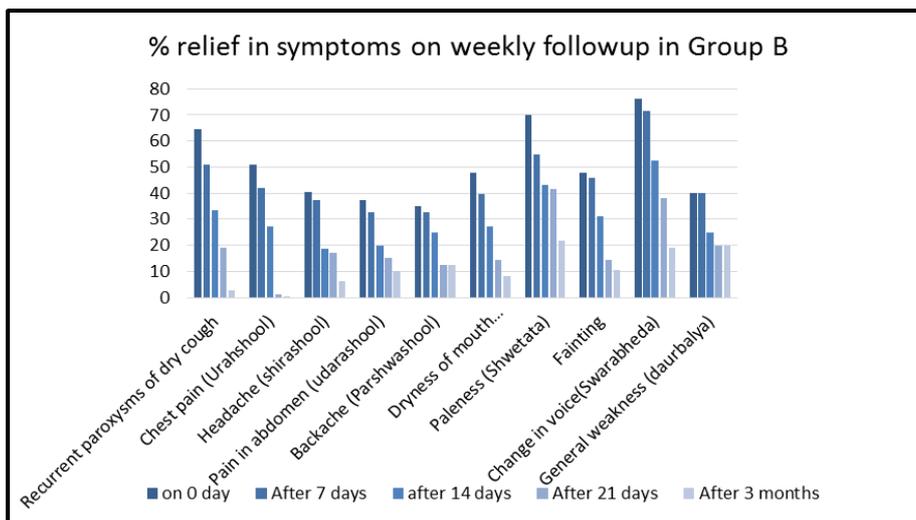


Figure 9: % relief in symptoms on weekly follow-up in Group B

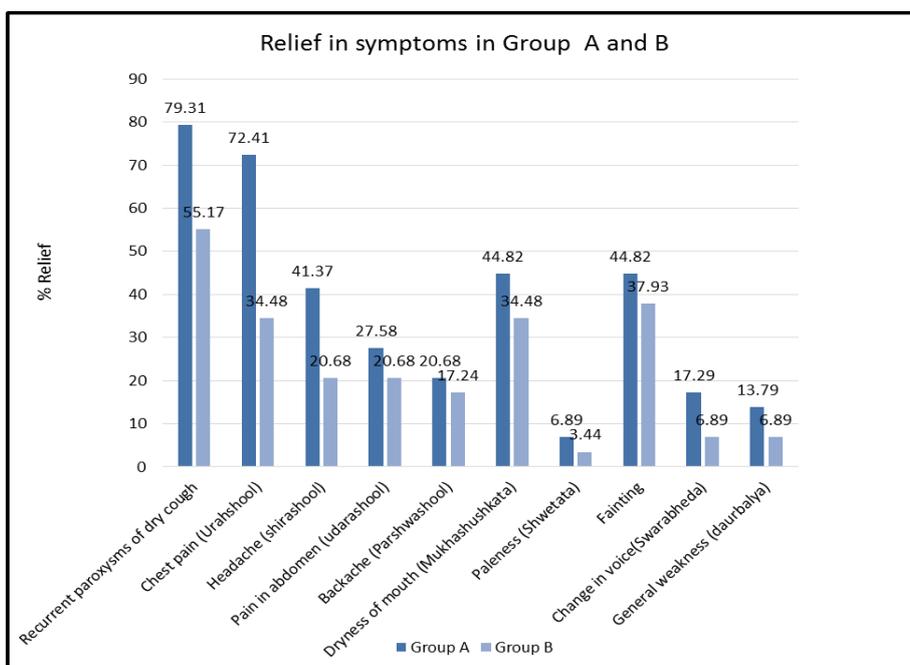


Figure 10: % relief in symptoms in Group A & B

Table 1: Stastical analysis of eosinophil count in both group

	Mean	S.D	t-value	Significance
Group A	3.22	0.66	8.68	0.01
Group B	2.29	0.72	8.96	0.01
Before treatment	3.503	0.63	2.083	0.05
After treatment	2.383	0.737	2.23	0.05

Table 2: Stastical analysis of symptomatolical relief in Group A

Symptoms	1	2	3	4	5	6	7	8	9	10
Z-value	-4.70	-4.27	3.62	2.80	2.37	3.41	3.62	3.52	2.36	2.20
Probability	<.00003	<.00003	<.00016	.0026	.0089	.0003	.00016	.00023	.0091	.0139

Significance	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Result	persists									

Table 3: Stastical analysis of symptomatic relief in Group B

Symptoms	1	2	3	4	5	6	7	8	9	10
Z-value	-4.62	4.54	3.28	2.31	2.34	3.21	3.41	3.41	2.36	1.6
Probability	<.00003	<.00003	<.00007	.0104	.0096	.0007	.0003	.0003	.0091	0.548
Significance	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Result	persists									

DISCUSSION

Maximum patients were found of age group 30-45 yrs. Similarly male patients (73.33% in Group A and 76.67% in Group B) were found to be more than females probably due to more exposure to outer environment. Similarly more patients were found to be Drivers (20% in Group A and 23.33% in group B), labors (33.33% in Group A and 26.67% in group B) by occupation. Their poor hygienic condition (53.33% in Group A and 53.33% in group B) and poor diet vitiates the Vata Dosha. Similarly this group of people comes in contact with 'dust' and 'smoke' which affects the Pranavaha strotasa.

Maximum patients had addiction of tobacco chewing and smoking (46.67% in Group A and 43.33% in group B). While 30% in Group A and 26.67% in group B Patients were found to be alcohol addict. This are some of the principal factor found responsible for pranvaha stroas dushti and simultaneously vitiation of vata dosha and enhance the symptoms of Vataj Kasa (eosinophilia).

Maximum patients were found to be from low income group (53.33% in Group A and 50% in group B). maximum patients were living in a poor hygienic condition (53.33% in Group A and 53.33% in group B). This indicates that poor dietary and hygienic conditions are more or less responsible for vitiation of vata dosha.

According to chronicity maximum patients were having history of dry cough from above 4 yrs (33.33% in Group A and 23.33% in group B). 20% in Group A and 30% in group B patients had history from 3-4 yrs while 16.67% in Group A and 16.67% in group B patients had history from 2-3 yrs. This chronic condition was responsible was deprivation of immune system.

It is also found that such patients having "Shushka Kasa" i.e. dry cough from a long duration showed a raised eosinophil count.

It was observed that many of the patients when outdoor i.e. when they came in contact with dust or organic fumes gave the history of increase in the symptoms of 'dry cough'. We also know that allergic conditions increase the eosinophil count. But still we cannot say that dry cough is due to allergy to smoke or dust.

A detailed pharmacological action of individual ingredients under drug review was observed. It shows that 'Haridra' and 'Rasamanikya' has Kasaghna effect. Haridra is found to be more effective with the use of 'Ghrita' in relieving many symptoms like Swarabheda, Shushkakasa, dryness of mouth and general weakness.

As we know that organic Arsenicals were used in eosinophilia, it is found that Rasamanikya has proved to be effective in reducing the eosinophil count.

Diethyl carbamazine is a proved drug of eosinophilia. No doubt that in the present study it is found that patients treated with Diethyl carbamazine had relief but the weekly rate of symptomatic relief was less and recurrence rate was more after 3 months review as compared to patients treated with Ghrita Bhrishta Haridra and Rasamanikya even after exposure to their usual environment.

CONCLUSION

Statistical analysis in symptomatic relief of group A and group B both were found to be significant.

Both Ghrita Bhrishta Haridra and Rasamanikya as well as Diethyl carbamazine were found to be effective in vatajakasa.

Diethyl carbamazine is a proved drug on eosinophilia. However, Ghrita Bhrishta Haridra and Rasamanikya were also found to be beneficial in vataj Kasa (eosinophilia).

The weekly rate of relief in patients was found to be more in patients treated by Ghrita Bhrishta Haridra and Rasamanikya as compared to Diethyl carbamazine.

Similarly the rate of recurrence after 3 months review was found to be more in patients treated with Diethyl carbamazine as compared to Ghrita Bhrishta Haridra and Rasamanikya.

The rate of reduction in eosinophil count was found to be more in cases treated with Ghrita Bhrishta Haridra and Rasamanikya.

Thus, Ghrita Bhrishta Haridra and Rasamanikya can be proved to be more effective in vataj Kasa (eosinophilia). and can be used as an alternative to Diethyl carbamazine without any side effects and recurrence of symptoms. Further research should be carried to assess the efficacy of Ghrita Bhrishta Haridra and Rasamanikya in eosinophilia associated with other disorders like skin diseases, allergies.

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