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ROLE OF THREE LESSER KNOWN HOMOEOPATHIC MEDICINES IN THE TREATMENT OF ALLERGIC RHINITIS

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ABSTRACT

Background: Allergic Rhinitis is a common and often debilitating disease marked by rhinorrhea, nasal congestion, nasal itching and sneezing is on the increase worldwide. Severe Allergic Rhinitis has been associated with significant impairments in sleep and work performance. **Research question:** Whether the patients of Allergic Rhinitis get the beneficial results by three lesser known homoeopathic medicines selected for this study viz. *Ambrosia artemisiaefolia, Histaminum hydrochloricum* and *Arundo mauritanica*? **Aim:** To assess the role of three lesser known homoeopathic medicines in the treatment of Allergic Rhinitis. **Objective:** To assess the effect of three lesser known homoeopathic medicines in the treatment of Allergic Rhinitis by using SFAR Score Scale. **Methods:** Total 105 patients suffering from Allergic Rhinitis were included in study, 35 cases for each medicine i.e. *Ambrosia artemisiaefolia, Histaminum hydrochloricum* and *Arundo mauritanica*. The medicines were prescribed randomly to the patients. For study, the subjects were selected from O.P.D of Dr. M.P.K. Homoeopathic Medical College, Hospital & Research Centre and Homoeopathy University, Saipura, Jaipur, as per inclusion and exclusion criteria. **Results:** Out of 105 patients of Allergic Rhinitis, 35 patients were prescribed *Ambrosia artemisiaefolia* in which 7 (20%) patients showed marked improvement in their symptoms, 15 (42.86%) showed moderate improvement, 8 (22.86%) patients showed mild improvement and remaining 5 (14.28%) didn't respond to the medicine i.e status quo. 35 patients were prescribed *Histaminum hydrochloricum* in which 6 (17.14%) showed

marked improvement in their symptoms, 14 (40%) patients showed moderate improvement, 15 (42.86%) patients showed mild improvement and remaining 0 (0%) were status quo. 35 patients were prescribed *Arundo mauritanica* in which 0 (0%) patients showed marked improvement in their symptoms, 14 (40%) showed moderate improvement 21 (60%) showed mild improvement and remaining 0 (0%) were status quo.

KEYWORDS: Allergic Rhinitis, *Ambrosia artemisiaefolia*, *Histaminum hydrochloricum*, *Arundo mauritanica*, SFAR Score Scale.

INTRODUCTION

Allergies occur when the immune system reacts against harmless substance in the environment. When the immune system begins to react against harmless substances in the environment this can lead to allergic reactions which are exaggerated damaging immune responses to substances that are normally harmless.[1]

When people with allergy diseases are exposed to common environmental substances such as house dust, mites or grass pollens a type of white blood cell (B lymphocytes) produce specific antibodies known as IgE against that substance. This IgE then attaches itself to another type of white blood cell (mast cells) and when the mast cells come into contact with that substance again they initiate a complex immune response that leads to allergy.[1]

Allergic Rhinitis commonly known as Hay Fever is an IgE mediated inflammatory response of the nasal membranes induced by allergen exposure. This response causes symptoms which include rhinorrhea, nasal obstruction, nasal itching and sneezing. It may be seasonal or perennial.[2]

Seasonal antigens include pollens from grasses, flowers, weeds or tree. Allergic Rhinitis due to pollens is a worldwide problem which may be aggravated during harvest seasons.

Perennial Allergic Rhinitis may be a specific reaction to antigens derived from house dust, fungal spores or animal dander.[3]

Allergic Rhinitis is a heterogeneous disorder that despite its high prevalence is often undiagnosed. It is characterized by sneezing, nasal congestion and rhinorrhea. About 20 to 25% of the population is affected with Allergic Rhinitis which makes it by far the most common allergic disease in the world.[4] Allergic Rhinitis affects an estimated 20 to 40

million people in the US alone & the incidence is increasing an estimated 20% of cases are Seasonal Allergic Rhinitis, 40% of cases are Perennial Allergic Rhinitis and 40% of cases are mixed.[4] Allergic Rhinitis affects an estimated 20 to 40 million people in the US alone & the incidence is increasing an estimated 20% of cases are Seasonal Allergic Rhinitis, 40% of cases are Perennial Allergic Rhinitis and 40% of cases are mixed.[4] The prevalence of Allergic Rhinitis symptoms in the International Study on Asthma and Allergies in Childhood (ISAAC) varied between 0.8% to 14.9% in 6-7 year olds and between 1.4% to 39.7% in 13-14 year olds. Countries with a very high prevalence include Australia, New Zealand and the United Kingdom. Countries with a very low prevalence include Indonesia, Albania, Romania, Georgia and Greece.[5] National surveys show prevalence rates of Allergic Rhinitis in France is 5.9% and 29% in United Kingdom. Perennial Rhinitis is probably more common in adults than in children.[5]

In India, Allergic Rhinitis is considered to be a trivial disease, despite the fact that symptoms of rhinitis were present in 75% of children and 80% of adults.[6]

***Ambrosia artemisiaefolia* by *Vithoulkas G.*, "Materia Medica Viva"**

Feeling as if the whole respiratory tract and the head were stuffed up blocked. The patient is very sensitive to all kinds of pollens especially from roses with an aggravation period that starts around July and has its peak in mid August. Hay fever with watery catarrh, sneezing and lachrymation.[7]

***Histaminum hydrochloricum* by *Dr Julian O.A.*, "Homoeopathic Materia Medica"**

Itching of the nose and the sensation as if the skin of the nose has become shrunk. Nose blocked one sided or bilaterally.[8]

***Arundo mauritanica* by *Allen. T.F.*, "The Encyclopedia of Pure Materia Medica"**

Constant sneezing, running of water from the nose and pain at the root of the nose.[9]

MATERIAL AND METHODOLOGY

1. Study setting: The study was conducted at the

SITE 1: Cases from the O.P.D./I.P.D. of Dr. Madan Pratap Khunteta Homoeopathic Medical College, Hospital & Research Centre- Station Road, Jaipur - 302001.

SITE 2: Cases from the O.P.D./I.P.D of Homoeopathy University, Saipura, Sanganer, Jaipur.

2. Study duration

The study was under taken for a period of one year of duration i.e. from 4/8/2015 to 4/8/2016 out of which cases were registered in first nine months up to 4/5/2016 so that minimum six visits/observations were obtained of the last case.

3. Selection of sample

Selection of cases was done randomly from college above mentioned both sites. 120 cases were registered for the study size for each group is 35.

- Group A- 35 cases were prescribed *Ambrosia artemisiaefolia*
- Group B- 35 cases were prescribed *Histaminum hydrochloricum*
- Group C- 35 cases were prescribed *Arundo mauritanica*

4. Inclusion / Exclusion criteria

Screening of patients as per inclusion and exclusion criteria which was as follows:

Inclusion Criteria

- All age groups were included in the study irrespective of their sex, caste, religion & duration of illness.
- Diagnosed cases of Allergic Rhinitis taking treatment from other systems of medicine, feeling no relief and seeking homoeopathic treatment.
- Patients with minimum 6 regular follow ups.
- Cases giving consent to participate in the study.

Exclusion Criteria

- Cases of Sinusitis, Bronchial Asthma and Allergic Bronchitis were excluded from the study.
- Cases of Middle Ear Infections, Tonsillitis were excluded from the study.

Withdrawal

The cases without proper 6 follow–ups (15 patients) were excluded from the study.

5. Study design

- A Randomization parallel arm open label clinical study. Patients were enrolled from O.P.D. as when they come after confirmation of their inclusion criteria as per protocol, till such time that the target is achieved.

- Selected 105 individuals were divided into 3 groups with 35 patients in each randomly (GROUP-A, GROUP-B and GROUP-C).

Intervention

- Group-A was given *Ambrosia artemisiaefolia*
- Group -B was given *Histaminum hydrochloricum*
- Group- C was given *Arundo mauritanica*

Follow up

Patients enrolled in the study would be required to pay visit weekly or fortnightly for follow - up & assessment. Minimum six follow ups of the patient finally assess the case.

Change of line of treatment: If there was no change in sign and symptoms of the patients of any GROUP after adequate repetition of assigned medicine in increasing potency in repeated doses judiciously, those patients were referred in the general O.P.D. for the treatment according to totality of symptoms and their record was kept separately.

6. Selection of Tools

- Detailed case taking Performa especially designed for the study.
- **Parameter scale**: Special scoring pattern was prepared to assess subjective symptoms- "SFAR SCALE". Total of Score was done by adding score of above items. Score was assigned between 0-16 as per the complaint of patient. Higher the score more the complaint severity.

SFAR SCORE SCALE FOR ALLERGIC RHINITIS

Discriminators	Score (points) attributed by experts	Result
Blocked nose	1	
Runny nose	1	
Sneezing in past year	1	
Months of the year	Perennial – 1	
	Pollen season - 1	
Nasal symptoms plus itchy eyes	Y-2 N-0	
Triggers: Pollens, house dust mites, dust Epithelia (cat, dog)	Y-2 N-0	
Perceived allergic status	Y-2 N-0	
Perceived allergic status	Y-2 N-0	

Previous medical diagnosis of allergy	Y-1 N-0	
Familial history of allergy	Y-2 N-0	
Total points	Max- 16 Min-0	

- **Scoring Assessment**

➢ 105 patients were selected for this study out of 120 cases. The result of study was assessed on the basis of the percentage score. This was assessed by a SFAR Score Scale.

➢ Score Percentage of each patient was calculated by before and after scores on SFAR Score Scale by using following formula.

$$\text{Score Percentage} = \frac{\text{Score at Baseline} - \text{Score at the end}}{\text{Score at Baseline}} \times 100$$

❖ If obtained score% is >75% it means Marked improvement.

❖ If obtained score% is 40 to 75% it means Moderate improvement

❖ If obtained score% is <40% it means Mild improvement

❖ If there is no change in obtained score% it means Status quo

- **Patient information sheet.**
- **Informed Consent form.**
- **Homoeopathic medicine -** *Ambrosia artemisiaefolia, Histaminum hydrochloricum and Arundo mauritanica* was prescibed to the patients suffering from Allergic Rhinitis.

7. Data collection: Study-related information was recorded in the case report forms. Centralized data was collected in approved master chart in proper excel format.

Maintenance- There are forms that are completed by for each subject recruited, including two consent form for the patient's information and his/her written consent for the enrolment in the study.

8. Data analysis: The data were entered into MS Excel spreadsheet and analysis was done using Statistical Package for Social Sciences (SPSS) (Chicago, Illinois, USA) version 21.0 software.

9. Statistical techniques

➢ The statistical technique which was applied is "Paired t – test" and "ANOVA TEST".

Paired t- test was used to assess the before and after scores in each patient & "ANOVA TEST" was used to compare between the three groups.

OBSERVATIONS AND RESULT

Maximum incidence of Allergic Rhinitis was observed in the age group 21-30 years i.e. 32 cases (30.48%) whereas minimum incidence was in the age group 41-50 years i.e. 11 cases (10.48%). No case was found below 10 years and above 60 years in the study. Maximum cases of Allergic Rhinitis were observed in male patients i.e. 58 cases (55.24%) in comparison to female patients i.e. 47 cases (44.76%). Maximum number of cases i.e. 59 cases (56.19%) were observed from urban areas whereas 46 cases (43.81%) were from rural areas. 68 (64.76%) patients had the positive family history of Allergic Rhinitis.

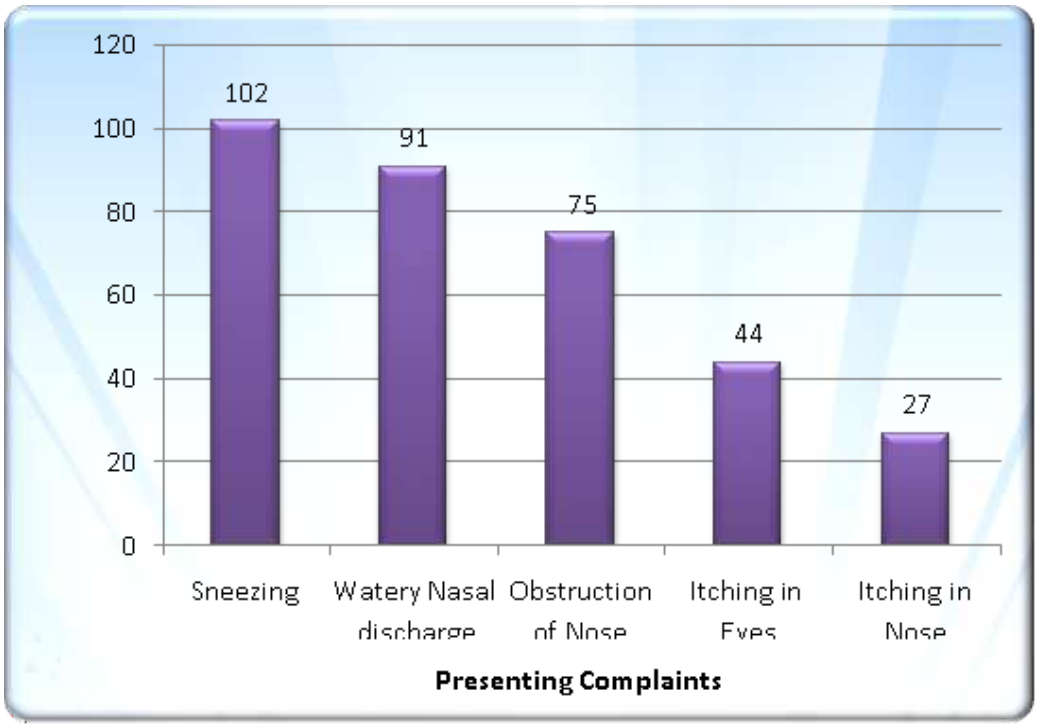

Figure 1: Graphical representation of Presenting Complaints.

As shown in Figure-1, maximum incidence of presenting complaint was observed is sneezing i.e. 102 cases (97.14%), followed by watery nasal discharge i.e. 91 cases (86.66%), followed by obstruction of nose i.e.75 cases (71.42%), itching in eyes i.e. 44 cases (41.90%) and itching in nose 27 cases (25.71%).

Incidence of Etiological/Precipitating factors. Maximum cases were observed in winters i.e. 44 cases (41.90%), followed by in weather changes i.e. 29 cases (27.62%). Dust in 14 cases

(13.33%), Cold air in 11 cases (10.48%), rainy weather in 5 cases (4.76%) and summer in 2 cases (1.91%) was the Etiological/Precipitating factors.

Table 1: Result of Three Medicines Given To 105 Patients of Allergic Rhinitis.

Result (Score %)	Group A	Group B	Group C	Total (%)
Marked	7	6	0	13
Improvement	(20%)	(17.14%)	(0%)	(12.38%)
(>75%)				
Moderate	15	14	14	43
Improvement	(42.86%)	(40%)	(40%)	(40.95%)
(40-75%)				
Mild	8	15	21	44
Improvement	(22.86%)	(42.86 %)	(60%)	(41.91%)
(< 40%)				
Status Quo	5	0	0	5
(0%)	(14.28%)	(0%)	(0%)	(4.76%)
Total	35	35	35	105 (100%)

Above table shows the overall results of the three medicines.

- First column of table shows the results of *Ambrosia artemisiaefolia*, which was prescribed to 35 (100%) patients, out of which 7 (20%) patients showed marked improvement in their symptoms, 15 (42.86%) showed moderate improvement, 8 (22.86%) patients showed mild improvement and 5 (14.28%) were status quo.
- Second column shows the results of *Histaminum hydrochloricum* which was prescribed to 35 (100%) patients, out of which 6 (17.14%) showed marked improvement, 14 (40%) patients showed moderate improvement, 15 (42.86%) patients showed mild improvement and 0 (0 %) were status quo.
- Third column shows the results of *Arundo mauritanica* which was prescribed to 35 (100%) patients, out of which no one showed marked improvement, 14 (40%) patients showed moderate improvement, 21 (60%) patients showed mild improvement.
- Fourth column shows the overall results of three medicines out of 105 patients of Allergic Rhinitis 13 (12.38%) patients showed marked improvement in their symptoms, 43 (40.95%) patients showed moderate improvement, 44 (41.91%) patients showed mild improvement and remaining 5 (4.76%) didn't respond to the medicine i.e. status quo.

STATISTICAL ANALYSIS

The statistical tools used to achieve the goals are "Paired-t test" and **"**ANOVA test". For assessing the improvement SFAR Score scale was used. The analysis has been done on IBM

SPSS 20.0 "Paired t-test" is applicable to study the difference first and final score of SFAR Score Scale.

Table 2: Paired sample t-test of Group A.

Assessment Scales (First & Final Scores)	Mean	Standard Deviation	t_{cal}	d. f.	p-value
SFAR Scale	3.571	1.399	15.100	34	0.000

Table 3: Paired sample t-test of Group B.

Assessment Scales (First & Final Scores)	Mean	Standard Deviation	t_{cal}	d. f.	p-value
SFAR Scale	4.571	2.704	10.002	34	0.000

Table 4: Paired sample t-test of Group C.

Assessment Scales (First & Final Scores)	Mean	Standard Deviation	t_{cal}	d. f.	p-value
SFAR Scale	4.829	3.024	9.446	34	0.000

ANOVA TEST

The one-way analysis of variance (ANOVA) is used to determine whether there are any statistically significant differences between the means of three or more independent (unrelated) groups.

Table 5: ANOVA-test of Group A, B & C.

Mean difference (I-J)	Std. Error	p-value
.457 .857	.390 .390	.00
-.457 .400	.390 .390	.001
-.857 -.400	.390 .390	.01

- From Table 2,3,4&5, we can see that the p-value is less than 0.05 indicating a significant positive difference in the first & final score of SFAR SCALE.
- So, in this study from above conclusion null hypothesis is rejected and alternative hypothesis is accepted.

In this study it was observed that when Group-A was given intervention *Ambrosia artemisiaefolia* and when assessed on the basis of SFAR score scale, marked improvement was seen in 20% patients, 42.86% showed moderate improvement, 22.86% patients showed mild improvement and 14.28% were status quo.

The intervention *Histaminum hydrochloricum* when given to Group B and when assessed on the basis of SFAR score scale, 17.14% patients showed marked improvement in their symptoms, 40% showed moderate improvement, 42.86% patients showed mild improvement and 0% were status quo.

The intervention *Arundo mauritanica* when given to Group C and when assessed on the basis of SFAR score scale it was observed that no any patient showed marked improvement, only 40% showed moderate improvement, 60% showed mild improvement.

The overall result of the study was that 12.38% patients showed marked improvement in their symptoms, 40.95% showed moderate improvement, 41.91% patients showed mild improvement and 4.76% were status quo.

CONCLUSION

In this study all three medicines have shown improvement in the cases of Allergic Rhinitis and the conclusive fact is derived on the basis of SFAR score scale that *Ambrosia artemisiaefolia*, *Histaminum hydrochloricum* and *Arundo mauritanica* can be used in the management of Allergic Rhinitis. There were no side effects during the treatment.

Finally, from this study it can be concluded that lesser known homoeopathic medicines are of importance in managing Allergic Rhinitis and can help the patient to take a new lease on life, but to establish their proper effects on system further proving and verification are required with a long-term trial on large sample size should be carried out in future.

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