

EFFECTIVENESS OF HOMEOPATHY AND MANAGEMENT OF POST MONSOON ALLERGIC RHINITIS: A PANEL STUDY ON THE PATIENTS VISITING IIT KANPUR HEALTH CENTRE

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CONFLICTS OF INTEREST

There are no conflicts of interest for any of the authors.

ABSTRACT

Background:

Allergic rhinitis is a chronic disease that severely affects the quality of life of the patient. Symptoms and severity of allergic rhinitis for a patient may depend on various factors. Effect of exposure to different allergens may trigger different kinds of symptoms among the subjects. Seasonal allergy may be attributed to exposure to bioaerosol present in the ambient environment. Common inhalers used in Allopathic system of medicines provide only short term symptom relief to patients. At times, short term or no significant relief from the allopathic medicines is followed by several side effects.

Methods:

This study was carried out at Indian Institute of Technology Kanpur (IIT Kanpur) campus, which is considered a clean and green campus. This study tries to correlate the symptoms observed among the population studied and the effectiveness of homeopathic medicines on the sub-set of patients suffering from post monsoon allergic rhinitis. Efficacy of Homeopathic medicine on the studied participants suffering from seasonal allergies over a period of up to 7 days was recorded. The record of medicines prescribed by doctor was also considered in the study. Forty patients with written consent for participations were enrolled for follow up of seven days during medication. Twelve predefined homeopathic medicines were selected for the study.

Results:

More than sixty five percentages of patients following the prescribed medications, reported a moderate to better improvement in health. By day five, 38% of patients were cured of allergic rhinitis and 43% showed marked improvement.

Conclusions:

Homeopathic medicines are effective in treatment of allergic rhinitis. Proper observation of the symptoms and choosing the proper medicine provides an early relief to the patient from the allergic rhinitis. There is a further need for study with a larger cohort and inclusion of related air quality parameters to tease out potentially good Vs. poor performing medicines within the study.

Keywords: homeopathy, post-monsoon allergic rhinitis, allergic rhinitis, seasonal allergy

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INTRODUCTION

Allergic rhinitis is a major chronic disease of respiratory system. It is characterized by nasal congestion, sneezing or itching of nose, rhinorrhea, inflammation of nasal membrane and post nasal drainage etc.¹. Patient may suffer from ocular symptoms such as red eyes, itching and watery eyes². Allergic rhinitis symptoms are categorized as mild and moderate/ severe. Both types of allergic rhinitis affect the quality of life by affecting the personal, professional and social life of the patient. They are often associated with emotional disturbances and sleep disorders in the patient. Impairment in professional as well as social activities of patients is reported in many studies³⁻⁵. If the symptoms become troublesome to the patient then they are referred to as moderate/ severe. World Health Organization and Allergic Rhinitis and its Impact on Asthma (ARIA) guidelines classify allergic rhinitis as intermittent or persistent according to the duration of the symptoms in the patient⁶. If the symptoms are reported for less than four days a week or less than four continuous weeks then it is referred to as intermittent allergic rhinitis (IAR) and if the symptoms persist for longer duration then it is referred to as persistent allergic rhinitis (PAR)⁶. Work productivity of the patient is significantly decreased during the allergic rhinitis period^{3,7,8}.

Allergic rhinitis severity for a patient depends on genetics and environmental exposure of the patient. Air borne allergens are often credited for their role in allergic rhinitis. It may be triggered by indoor allergens such as dust, mites, moulds etc or outdoor allergens like pollens, moulds etc.⁹. Symptoms may be exhibited round the year or may be seasonally exacerbated¹⁰. It is observed that generally patient suffers from allergic rhinitis for around seven days with a peak at around 3rd day of the manifestation of symptoms. There are cases where symptoms may continue even after third week of first manifestation in the patient⁹.

No significant improvement has been observed in upper respiratory tract infections by using antibiotics. The side effects associated with antibiotics have also led to their limited prescription in allergic rhinitis^{11,12}. Use of H1-antihistamines for treating allergic rhinitis can induce sedation in patients and thus reduce the quality of life and hamper work performances¹³. Further it may be noted that severity of rhinitis is not dependent over its treatment¹⁴. Homeopathic medications have been reported to be very effective in respiratory ailments and have shown to differ significantly from placebo. Several studies are available on the debate of placebo effects of homeopathy and its efficacy¹⁵⁻¹⁷.

This study was conducted to study the effect of different homeopathic medicines on patients suffering from seasonal allergy in post monsoon season and visiting the IIT Kanpur health center for its cure.

MATERIAS AND METHODS:

IIT Kanpur campus (26.4°N, 80.2°E) is located along the national highway (NH 91, also known as Aligarh-Kanpur Road) and a railway track for diesel engine driven train runs alongside the national highway. Campus is located 15 Km North in upwind direction of the Kanpur city. Kanpur city is a major industrial hub located in Indo Gangetic plain. All the subjects selected for the study were residing inside the IIT Kanpur campus. IIT Kanpur campus is a residential academic campus with an estimated human population of 15,000. Besides, many workers and outsiders visit the campus daily for different purposes. It is a lush green campus with diverse and rich vegetation cover. Campus has one of the best modern infrastructures and no known air pollution source inside or in downwind vicinity. Figure 1 shows the Map and location of IIT Kanpur campus. A relatively rich and dense vegetation cover, extensive use of air conditioners, central air conditioners and exposure to different work conditions provides ample source for allergens.



Study Design

The study was designed in accordance with various guidelines to conduct such study in India. It was in accordance with the World Medical Association Declaration of Helsinki and Good Clinical Practices for Clinical Research in India. It is an open clinical study with the approval of concerned ethics committee of IIT Kanpur. This paper reports the study conducted during post monsoon season for duration of two months on patients suffering from allergic rhinitis and visiting the Indian Institute of Technology Kanpur (IIT Kanpur)-Health Center for its cure.

A mass awareness campaign was run in the campus. Alongside the campaign, a survey among residents was done for assessing their allergic and respiratory health (figure 2). If the symptoms of allergy and respiratory illnesses were present in the participant, they were advised to visit the health centre. It was observed that people generally try to ignore the allergic rhinitis symptoms and are reluctant to queue up at health centre. Of that visiting health center for allergic rhinitis, only a fraction of patient visits homeopathic doctor. The probable reasons for this were limited awareness about Homeopathic system and lesser number of man hours on which Homeopathic doctor is available as compared to total services rendered by health center.

As per the protocol, if the patient agreed to sign the consent form for their participation in the study, the symptoms of patient were recorded and data was used for this study. The study was done in post monsoon season for duration of two months on patients suffering from allergic rhinitis and only those visiting the IIT Kanpur Health Center for cure of the same were enrolled for the study. If patient visited the Homeopathic doctor at the IIT Kanpur Health Centre, the record of medicines prescribed by him was also considered in the study. Forty patients with written consent for participations were enrolled for follow up period of seven days during the medication (figure 2)

Twelve predefined homeopathic medicines were selected for the study. From the following list of medicines, the selection was made as per doctor’s discretion - Aconitum napellus, Kalium bichromicum, Nux vomica, Carbo vegetabilis, Dulcamara, Calcarea carbonica, Elaps corallinus, Pulsatilla nigricans, Mercurius solubilis, Chamomilla, Hepar sulphur, Sulphur.

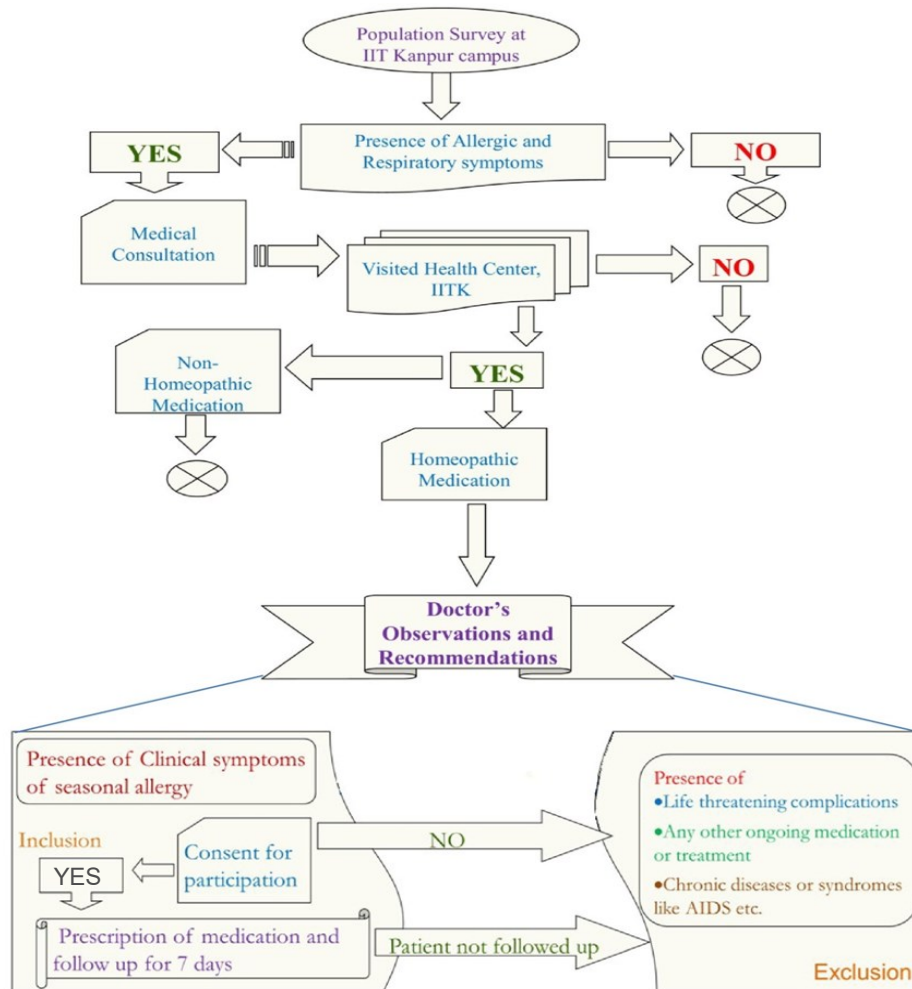


Figure 2. Social survey and observation of clinical symptoms and medications among the patients visiting IIT Kanpur Health Centre.

The criteria for selection were based on symptoms like nasal discharge and inflammation and coryza using Hompath software^{18,19}. It was assured that trial medicines were prepared by good manufacturing practice GMP certified pharmacy²⁰.

Inclusion and Exclusion Criteria

Only patients with allergic rhinitis symptoms for less than 7 days and who agreed to give the written consent were included for the study. If it was found that patient is suffering from some life threatening disease or is continuing on some other medication, that patient was excluded from the study.

Intervention

A repertorization chart was prepared for six common symptoms in patients suffering from allergic rhinitis. Severity of each symptom was considered for medication purpose. Final medication was decided according to the need of individual patient and consulting Homeopathic Materia Medica^{21,22}. Nasal and ocular symptoms of the patients were observed for assessing their health condition. Some other symptoms like fever and throat infection were noted after physical examination of the patient.

According to the frequency and intensity of symptoms in the patient, medicines were prescribed with dilution 6c (centesimal dilutions) which is (10^{-12}) times dilution in varying doses and administering interval varying from minute to hours as per the case requirement. Any improvement in symptoms was followed by appropriate change in medication or dosage to check the effectiveness of medicines.

All patients were called for follow up till the complete relief from allergic rhinitis was achieved and were advised to take preventive measures as to avoid exposure to allergens, getting wet, having cold drinks and ice cream during the period. Case study data of individual patient was put to assessment after 7 days of treatment. Allergic rhinitis symptom score (ARSS) on day of reporting was calculated²³. It was compared with the ARSS after one, three five and seven days of treatment for assessing the overall change in health of the patient.

Assessment and Analysis of Data

Severity of the Allergic Rhinitis Symptoms was quantified in terms of Allergic Rhinitis Symptom Score (ARSS). Each symptom of allergic rhinitis was assigned a numerical value and a total score was measured at the baseline²³. Data was recorded with proper care and base-line score for each resident was calculated as per the table 1. The methodology to quantify ARSS in the study by Nayaket. *al.* in 2010 is followed in the present study. We have also adapted the ARSS table from the above study.

Equation 1 and 2 are used to assess the improvement in allergic rhinitis symptoms among the patients.

$$\text{Change in ARSS} = (\text{Initial Score} - \text{Final Score}) \quad (1)$$

$$\text{Improvement} = (\text{Change in ARSS} / \text{Initial Score}) \times 100 \quad (2)$$

Change in ARSS value was calculated by using equation 1. The change in ARSS value obtained from equation 1 was used in equation 2 to assess the percentage improvement in symptoms of allergic rhinitis in the patient.

A change of 100% in ARSS was considered as cure followed by marked improvement for ARSS change between 76 and 100 (%). A change of 51-75% for ARSS was considered moderate improvement. Change between 26-50% was marked as mild improvement only. Change of less than 25% in ARSS was non-significant and less than zero percentage was worsening of symptoms.

RESULTS AND DISCUSSION:

Total of 40 patients gave their consent to participate in the study. Of these, only 37 patients were available for follow up. Due to some unavoidable reasons, 3 patients were excluded out of the study due to their being unfit to study protocol. Therefore, finally only 37 patients were available for making any conclusion out of the study. The symptoms of subjects were quantified and given values according to ARSS table (table 1).

Figure 3 and figure 4 show the ARSS of the patients agreeing to be part of the study, on different days when they visited the doctor for Homeopathic medications. The higher value of ARSS indicates more severe symptoms. Patients were subjected to homeopathic medicines from the previously mentioned list of twelve medicines. Precautionary measures as avoiding coldwater etc. were suggested to each patient. ARSS was plotted for observing the distribution of severity among the patients.

The improvement in the ARSS was considered as an indicator for improvement in the health of the patient. The relief from allergic rhinitis is clearly visible from the Day 1 itself (figure 3). Although the patients with high ARSS didn't show visible improvement on first day but the shift in the ARSS is visible for rest of the group

(figure 3). Generally, allergic rhinitis symptoms have a peak on about fourth day. Patients with high ARSS showed more than 70% of relief. Day 5 showed the relief to maximum number of patients. Seventh day ARSS shows a change of more than 85% to the whole group. ARSS score average for whole population declines from around 12 to 0.2 in the time span of seven days (figure 4).

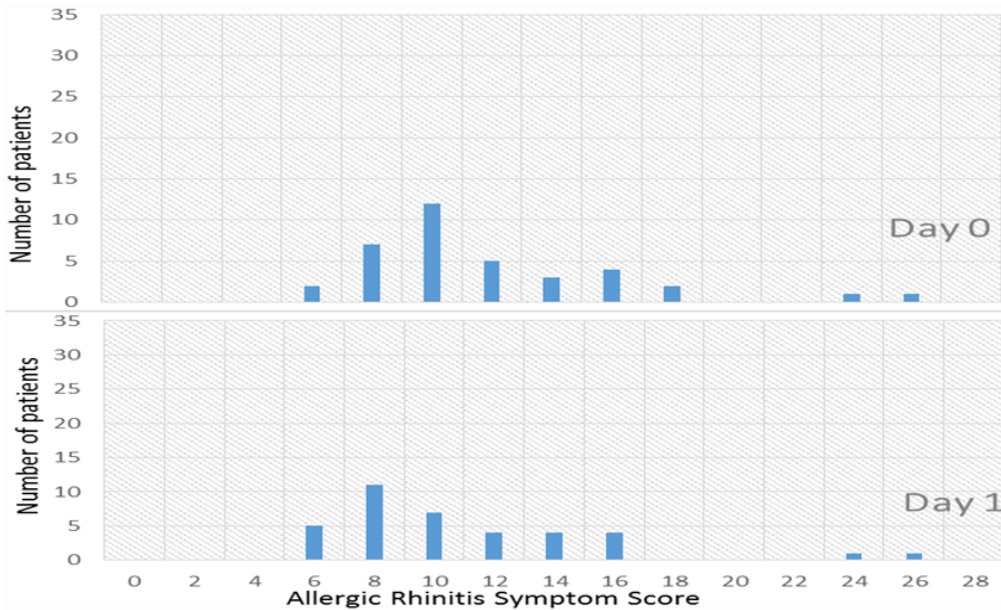


Figure 3. ARSS of the subjects on the day of reporting and Day 1

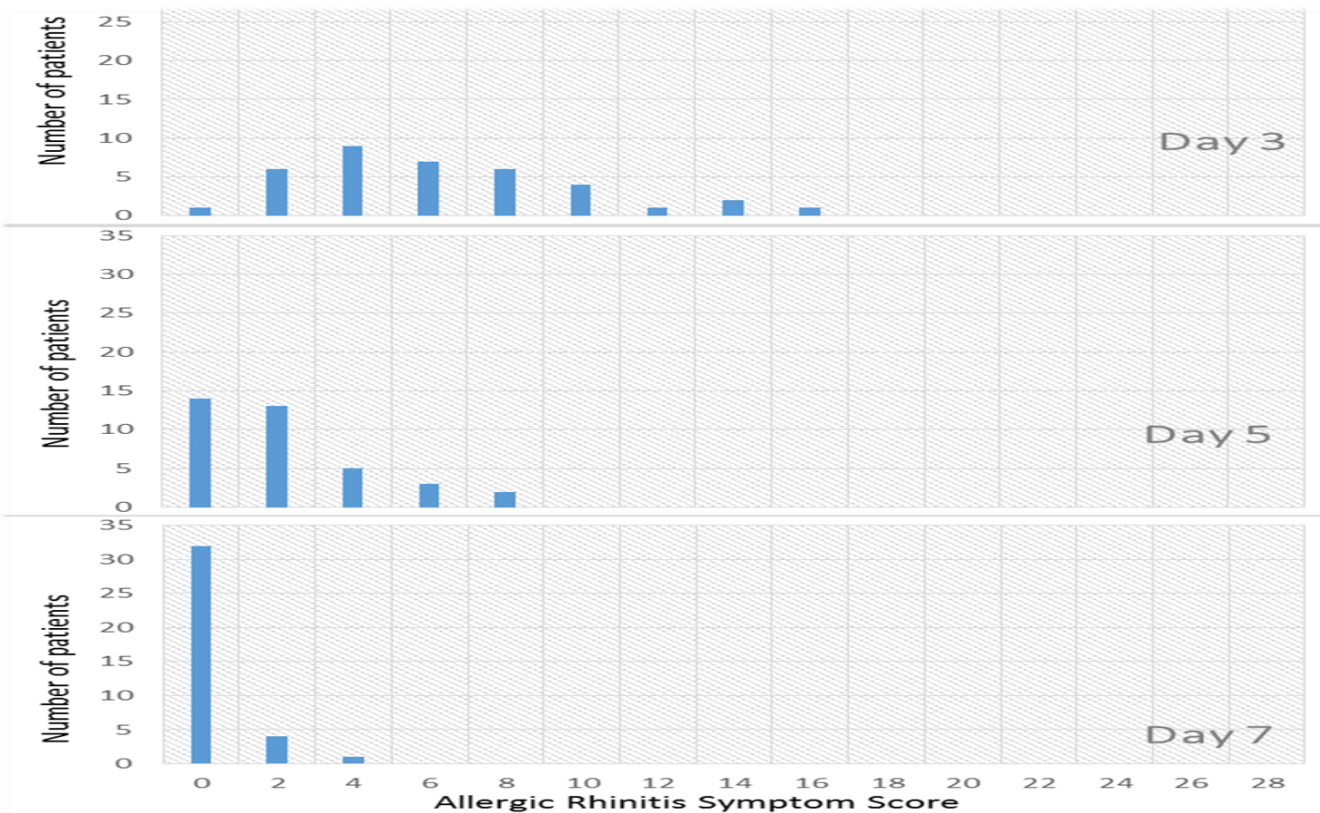


Figure 4. ARSS of the subjects on particular day of visiting the doctor

The shift of 7th day ARSS towards origin in the plot shows the improvement in allergic rhinitis symptoms for maximum population with time (figure 5). Patients with high ARSS showed more than 70% of relief ARSS was very low on 5th day of medication (figure 6).

Although there was no cure or marked improvement within one day of medication, conditions of most of the patient become static rather than getting worse. Considering this the improvement from the day 1 itself is a good enough reason to recommend homeopathic medicines to person suffering from allergic rhinitis (figure 7). Treatment for three days resulted in moderate or better improvement in more than 65% of the patients. By day five, 38% of patients were cured of allergic rhinitis and 43% showed marked improvement. Only 3% of patients showed up mild improvements in allergic rhinitis symptoms. Seven day treatment resulted in cure of 86% of population from allergic rhinitis. These figures are for a follow up period of 7 days only and recurrence of symptoms of seasonal allergy might be possible.

While trying to follow up the patients for the possible cause of illness, we prepared a short survey about their lifestyle, the preliminary results of the survey shows that post monsoon season shows transition of weather in Indian scenario and the reasons for the allergic rhinitis may depend from person to person. Change of weather and exposure to damp places were responsible for triggering allergic rhinitis in 49% of cases (figure 8).

The medicines Nux vomica, Dulcamara were found to be most effective for this group of patients. 20% of the patients have got the allergic rhinitis triggered due to exposure to cold. Hepar sulphur, Calcarea carbonica were most effective for this group of patients.

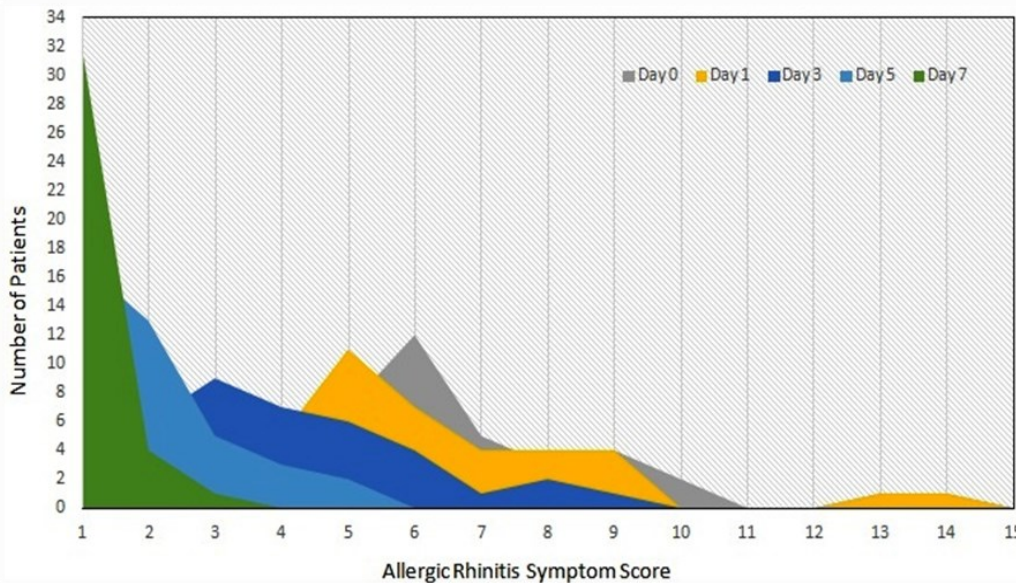


Figure 5.

Comparative shifts in ARSS for treatment period

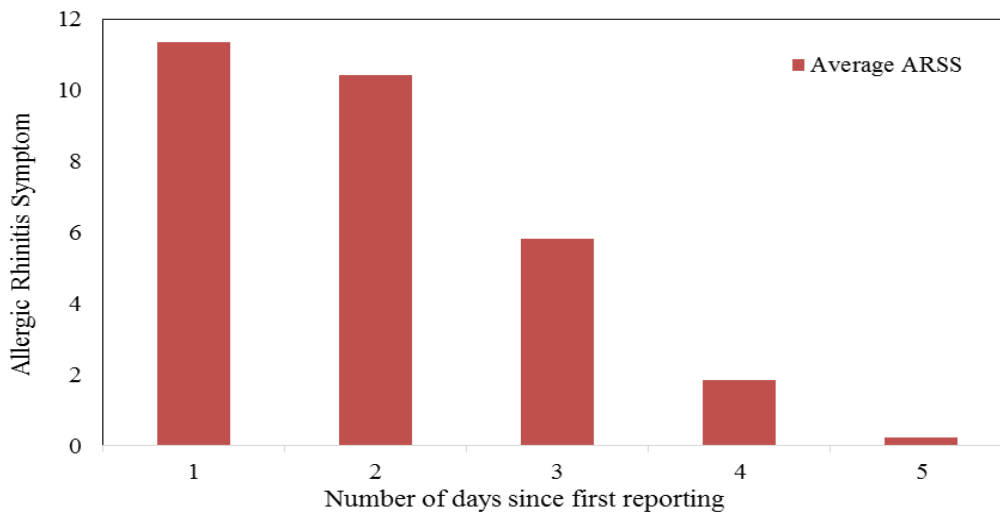


Figure 6.

Time series of ARSS

Consuming cold water was responsible for triggering of allergic rhinitis among 11% of the participating subjects. Nux vomica, Kalium bichromicum was the most efficient medicine for such patients. Climatic factors and weather conditions provide a favorable or unfavorable environment for various causative agents of allergic rhinitis. Bioaerosols as pollens and moulds vary significantly with change in weather conditions. Climatic factors may alter the distribution of bioaerosols, dust particles, fragments of insects as mites and pollens in ambient air.

Following up the patients individually, it was observed that although <10% of population was not benefited from the medication within the follow up duration of 7 days; it cannot be attributed to the failure of medication system. While generalizing the study for treatment of allergic rhinitis according to the symptoms of patients and the medicines used for treatment, the follow up period of seven days was used to draw the conclusions.

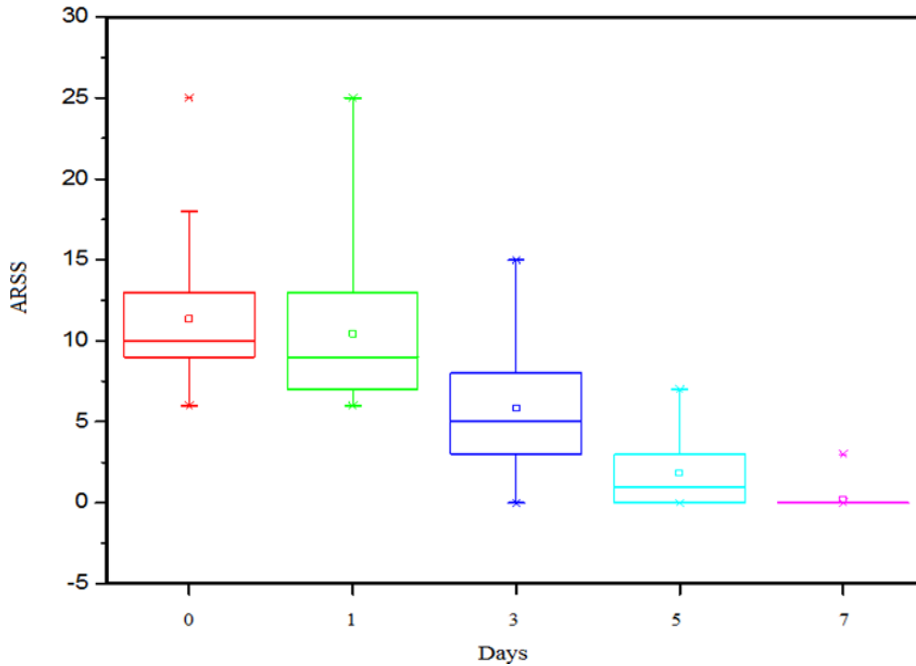


Figure 7.

ARSS during the Study Period

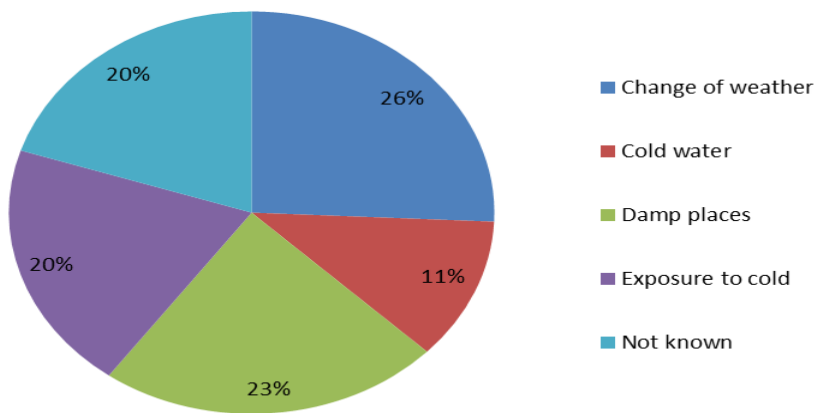


Figure 8.

Probable factors for acute rhinitis among visiting patients

Conclusion

Our results proved that Homeopathic medicines are effective in treatment of allergic rhinitis and proper observation of the symptoms and choosing the proper medicine provides an early relief to the patient from the allergic rhinitis. Patients were suffering from seasonal allergy but the reasons behind that were different for different patients. A proper follow up needs to be done so as to advise patient to make a change in life style like avoiding cold water and cold drinks etc., or the problem may be due to poor ambience like dampness at their working place or residence (23% in present study). Different conditions including the occupational agents may be trigger-

ing nasal symptoms in patients that mimic allergic rhinitis. Study of indoor air quality is required to find out the causes of perennial allergic rhinitis in patient. Avoiding the allergens like pollens is a good practice but patient might be sensitive to different kinds of allergens and avoiding each of them is not practical in most of the conditions. Further, change in weather and air pollution may also trigger allergic rhinitis or other nasal symptoms. So, there is a need to check ambient air quality of patient's micro-environment on regular basis so that a proper advisory can be issued. Symptoms of allergic rhinitis may be triggered by non allergic factors as various chemical pollutants in ambient air. Air quality check for various bioaerosols as bacteria, moulds and pollens as well as chemical speciation of particulate matter can only give a broader picture about various allergens and pollutants present in the ambient air.

Table 1 Allergic Rhinitis Symptoms Score (ARSS)

S. No.	Symptom	0	1	2	3	4
1	Nasal discharge	Absent	Watery	Mucoid (thick, white)	Mucopurulent (yellow, green)	
2	Discharge (sensation)	Absent	Bland	Acrid		
3	Discharge (quantity)	Absent	Scanty	Copious		
4	Sneezing	Absent	Occasional	Infrequent	Constant	
5	Nasal obstruction (frequency)	Absent	Occasional	Always		
6	Nasal obstruction (Side)	Absent	Unilateral	Bilateral compelled to mouth breathing	Post nasal dripping	
7	Irritation in nose and eyes	Absent	Itching	Burning	Pain	
8	Irritation in throat	Absent	Itching	Burning	Pain	
9	Lachrymation (watering eyes) Quality	Absent	Bland	Acrid		
10	Lachrymation (watering eyes) Quantity	Absent	Occasional	Always		
11	Malaise	Absent			Present	
12	Congestion of nasal mucosa	Absent			Swollen, red	
13	Congestion of nasal turbinates	Absent			Swollen, red	
14	Fever	Absent	Mild (97- 99°C)	Moderate (100-101°C)	Severe (102 - 105°C)	Hyperpyrexia ($\geq 106^{\circ}\text{C}$)
15	Headache	Absent	Present			
16	Anosmia	Absent	Present			

Future Scope

The study was conducted among residents of academic residential institute. The enrolment of subjects was restricted due to low number of population data base. Of the available data base, there is only a limited fraction of allergic rhinitis patients that visits health centre. The lack of information among residents about efficacy of Homeopathy in allergic rhinitis is also a factor for lesser number of patients opting for Homeopathic treatment, and this has prompted us to carry forward this study. Our objective was to check the efficacy of Homeopathic system, if any, in treatment of allergic rhinitis and lay a foundation for further study. This study fulfills its objective and suggests that a further study with a bigger population data base and a placebo group should be carried out to answer the queries rising out of this study. While studying for the relation between allergic rhinitis symptoms and causative factors, this study points out the need to explore the causative airborne allergens that are related with climatic factors triggering allergic rhinitis. There is need to assess better causal relationship with allergic rhinitis and recovery from the illness with intake of medicine and/or decrease in specific bioaerosol load. We need much larger cohort to tease out potentially good vs. poor performing medicines within the study population to come with some statistically meaningful conclusions. This is definitely a limitation of the current study involving only a handful of patients/subjects due to limited awareness, funds and study area.

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