



EVALUATING THE CHANGES IN IgE USING SILICEA IN ALLERGIC RHINITIS

Dhanya M.V. A¹, Murugan. M²

¹PG Scholar, Department of Organon of medicine, Sarada Krishna Homoeopathic Medical College, (Affiliated to The Tamil Nadu Dr. M.G.R Medical University, Chennai), Kulasekharam, Kanniyakumari District, Tamil Nadu, India.

ORCID ID: <https://orcid.org/0009-0002-2276-6130>

²PG and Ph. D Guide, Department of Organon of medicine, Sarada Krishna Homoeopathic Medical College, (Affiliated to The Tamil Nadu Dr. M.G.R Medical University, Chennai), Kulasekharam, Kanniyakumari District, Tamil Nadu, India.

ORCID ID: <https://orcid.org/0000-0002-9225-4416>

Abstract: Allergic rhinitis is a very common disorder that affects people of all ages, peaking in the teenage years, comes under ICD classification of disease ICD-10 code J30. 9 Allergic rhinitis (AR) is caused by immunoglobulin E (IgE)-mediated reactions to inhaled allergens and is one of the most common chronic conditions globally. Allergic rhinitis (AR) often co-occurs with asthma and conjunctivitis. The aim of this study was to determine how the level of IgE changed in patients with allergic rhinitis before and after receiving Silicea in the outpatient and inpatient departments of Sarada Krishna Homoeopathic Medical College.

IndexTerms - Allergic rhinitis, centesimal potency, Silicea terra

I. INTRODUCTION

Allergic rhinitis, the most common form of atopic disease, has an estimated prevalence ranging from 5 to 22 percent. It is characterized by sneezing, rhinorrhoea, nasal congestion, and pruritus of the nose and eyes. Allergic rhinitis (AR) is characterized by sneezing, nasal congestion, nasal itching and rhinorrhoea (nasal discharge) and is caused by immunoglobulin E (IgE)-mediated reactions to inhaled allergens. These immune reactions involve mucosal inflammation that is driven by type 2 cells. Allergic rhinitis (AR) seems to be the consequence of environmental exposures acting on a predisposed genetic background. Allergic rhinitis (AR) is often co-morbid with asthma and/or conjunctivitis. This is a measurement of the total level of IgE in the blood. While patients with allergic rhinitis are more likely to have an elevated level of IgE than the normal population, this test is neither sensitive nor specific for allergic rhinitis. As many as 50% of the patients with allergic rhinitis have normal level of IgE, while 20% of non affected individuals can have elevated levels of IgE levels. The diagnosis of Allergic rhinitis (AR) is made by medical history and examination (physical examination and, if needed, nasal endoscopy) plus, in some patients, tests for allergen-specific IgE (skin prick tests or tests for serum-specific IgE).

NEED OF THE STUDY

Allergic rhinitis is the most common condition that is frequently encountered in everyday practice. AR often begins early in life, with a prevalence of more than 5% at 3 years of age. Allergens associated with AR include pollens (tree, grass and weed, including ragweed), moulds and indoor allergens (house dust mites and animal allergens) and have a large geographical variability within and between countries. The present study aimed to determine the effectiveness of homoeopathic medicines in Allergic Rhinitis as well as its effectiveness in reduction of Serum IgE level. The aim of this study was to evaluate the efficacy and effectiveness of homeopathic intervention in the treatment of seasonal or perennial allergic rhinitis (AR). This study will prove to be an effective in the treatment of allergic rhinitis with Silicea in maintaining the levels of IgE as it is for the society, for the homeopathic fraternity and also to the investigator in person..

OBJECTIVE OF THIS RESEARCH

To understand the effectiveness of Silicea in Allergic Rhinitis. To assess the changes in the level of IgE in peoples having Allergic Rhinitis before and after administering Silicea Terra.

II. RESEARCH METHODOLOGY

2.1 Source of data

To find the prevalence and incidence of allergic rhinitis in different age group. To know how IgE plays a role in allergic patients. To understand the importance of Silica in treatment of allergic conditions. To understand the natural course of the disease and understand the permanent ways to cure the disease completely. To acquire the knowledge about the ailment and associated complaints of allergic conditions.

2.2 Selection of sample

30 participants were selected using purposive sampling

2.3 Data collection method

A Purposive selection of 30 cases of patient with allergic conditions from the OPD, IPD, Camp and Rural centre of Sarada Krishna homoeopathic medical college hospital ,the case details will b recorded in standardized pre structured case format of Sarada Krishna homoeopathic medical college hospital. Silicea was prescribed based on totality. Assessments were done in the subsequent follow up and the changes were recorded. Improvements were assessed on the basis of IgE levels and symptoms before and after. Results were presented in tables and chart and th statistical analysis with paired t test was done.

2.4 Inclusion criteria

Patients who had symptomatology suffering with Allergic rhinitis.Patients of 18 - 60 age group all sexes.

All group of socioeconomic status people

2.5 Disqualifying factors

Pregnant females, and the Patients with malignancy also patients with other systemic disorders

2.6 Outcome assessment

Changes in levels of IgE before and after the administration of Silicea. In the end of the study, the difference observed after the administration of Silicea will be assessed.

2.7 Statistical techniques and data analysis

The data presented are analyzed using Paired*t'test and they will be subjected to test for statistical significance.

STATISTICAL ANALYSIS

Null Hypothesis: IgE has no improvement with treatment.

Statistical Tool used : **Paired t test**

Paired Samples Statistics		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	IgE_Before_Treatment	1285.4333	30	741.18068	135.32046
	IgE_After_Treatment	822.5667	30	561.78022	102.56657

The Paired Samples Statistics table shows that the average IgE levels for 30 participants decreased from 1285.43 before treatment to 822.57 after treatment, indicating a potential effect of the treatment in lowering IgE levels. The standard deviation also reduced from 741.18 to 561.78, suggesting less variability in IgE levels after treatment. Additionally, the standard error of the mean decreased from 135.32 to 102.57, reflecting increased precision in the mean estimate post-treatment.

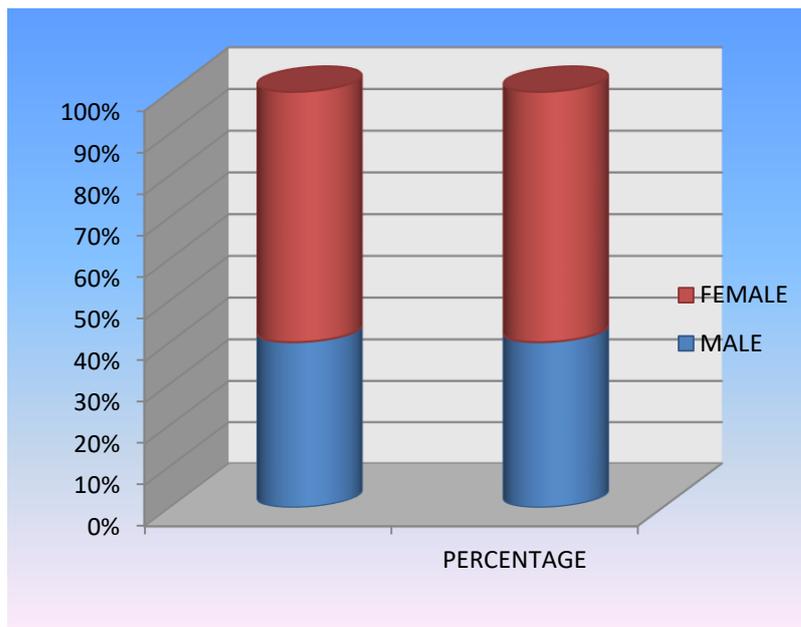
Paired Samples Test									
		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	IgE_Before_Treatment - IgE_After_Treatment	462.86667	703.09953	128.36782	200.32499	725.40835	3.606	29	.001

The Paired Samples Test results indicate a significant difference in IgE levels before and after treatment for the 30 participants. The mean difference is 462.87, with a standard deviation of 703.10, suggesting a substantial reduction in IgE levels. The 95% confidence interval for the difference ranges from 200.32 to 725.41, indicating that the true mean difference likely falls within this range. The t-value of 3.606 and the significance level ($p = .001$) show that this reduction is statistically significant, meaning the observed change in IgE levels is unlikely due to chance.

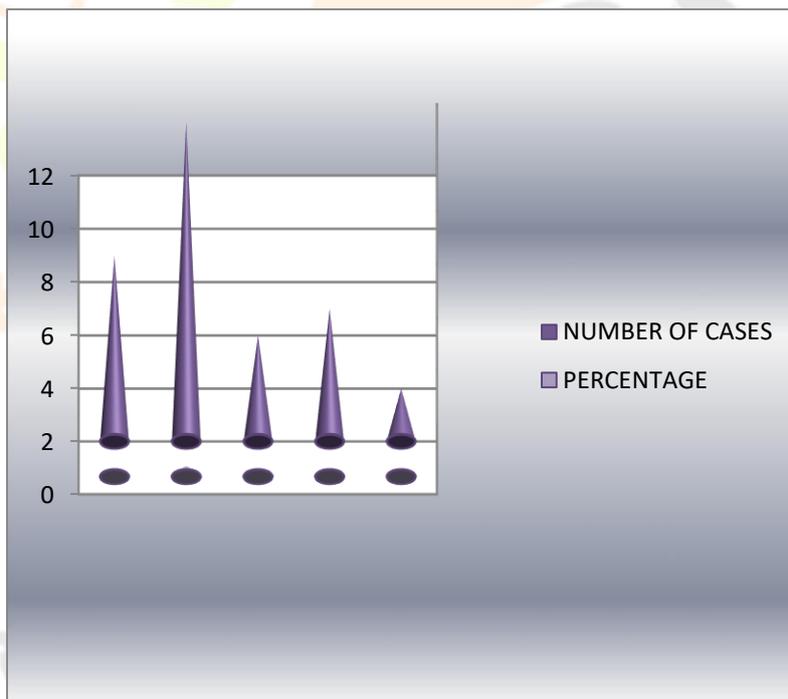
Inference: IgE has improvement with treatment.

III. RESULTS AND DISCUSSION

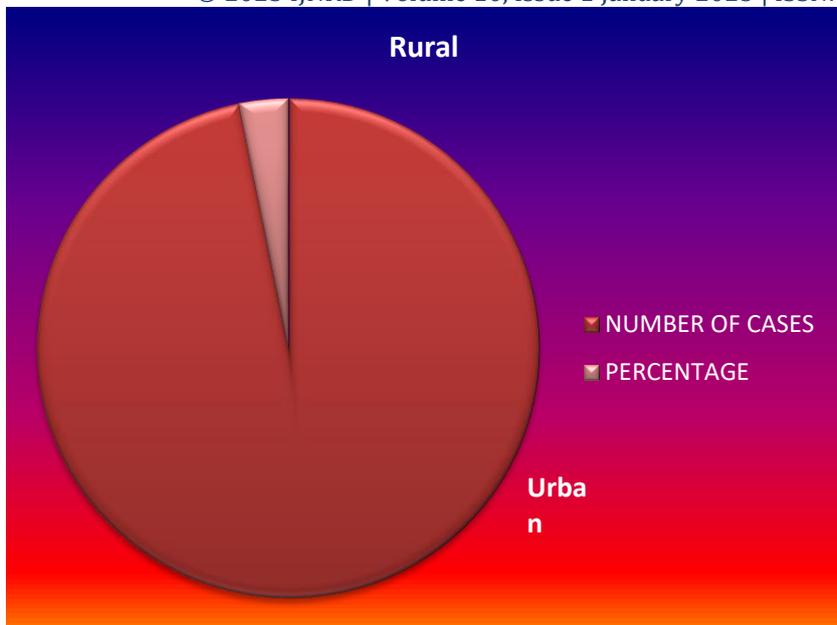
DISTRIBUTION OF CASES ACCORDING TO SEX



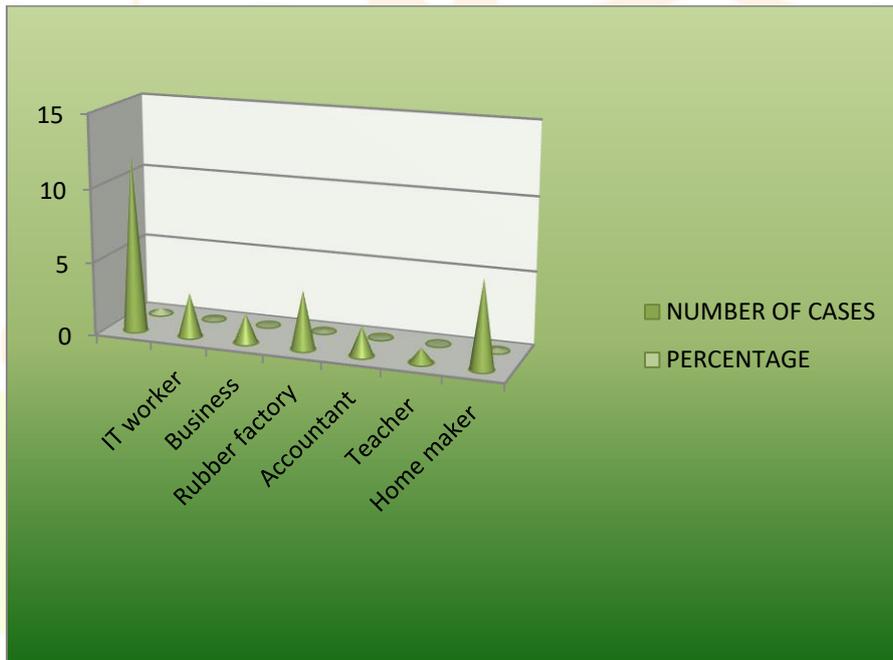
DISTRIBUTION OF CASES ACCORDING TO AGE



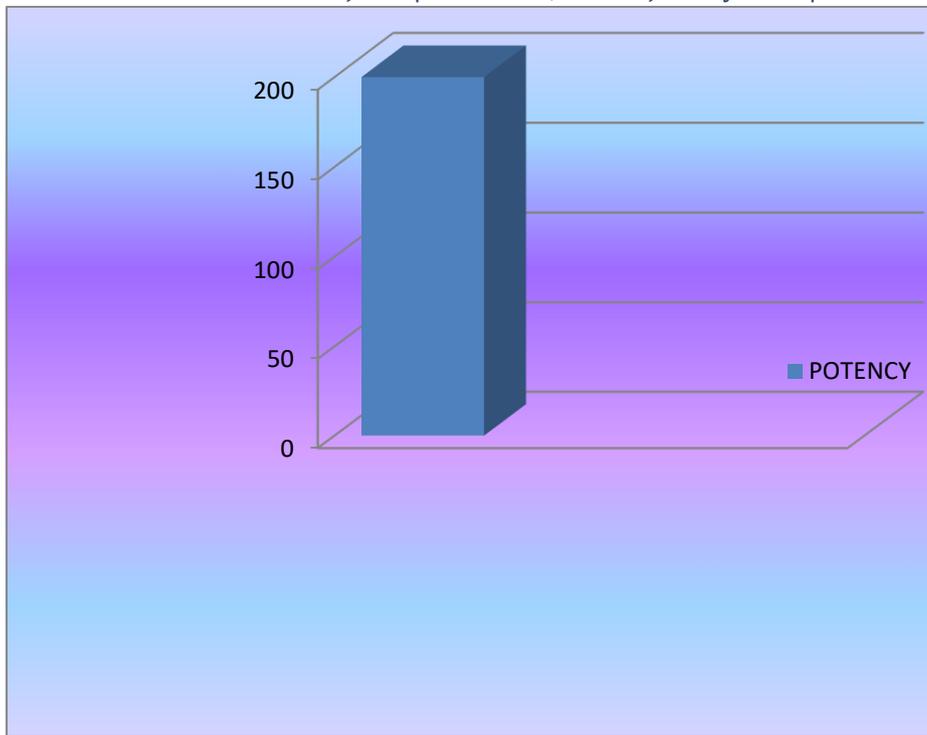
DISTRIBUTION OF CASES ACCORDING TO HABITAT



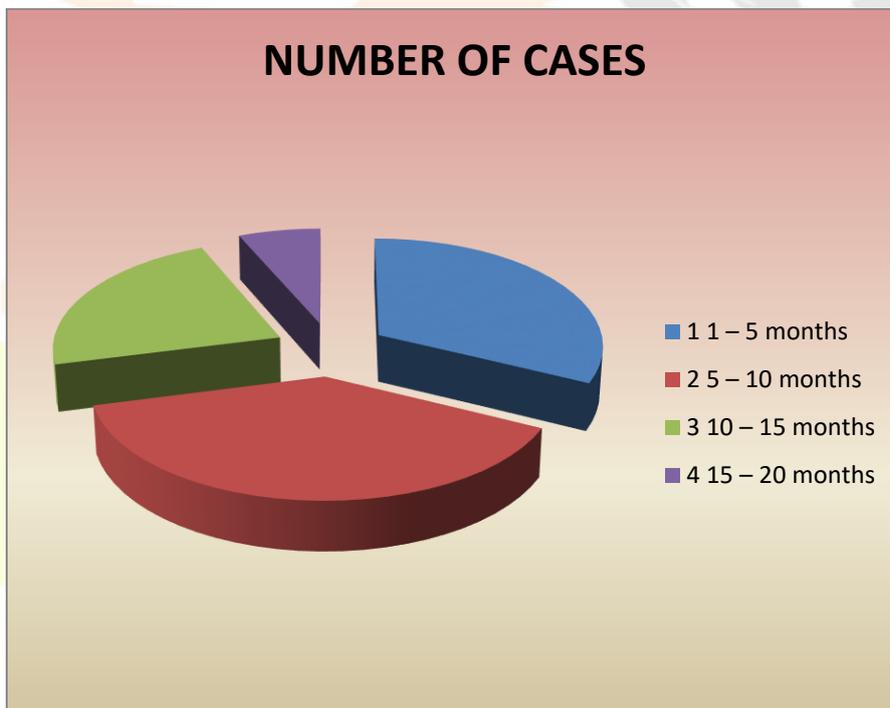
DISTRIBUTION OF CASES ACCORDING TO OCCUPATION



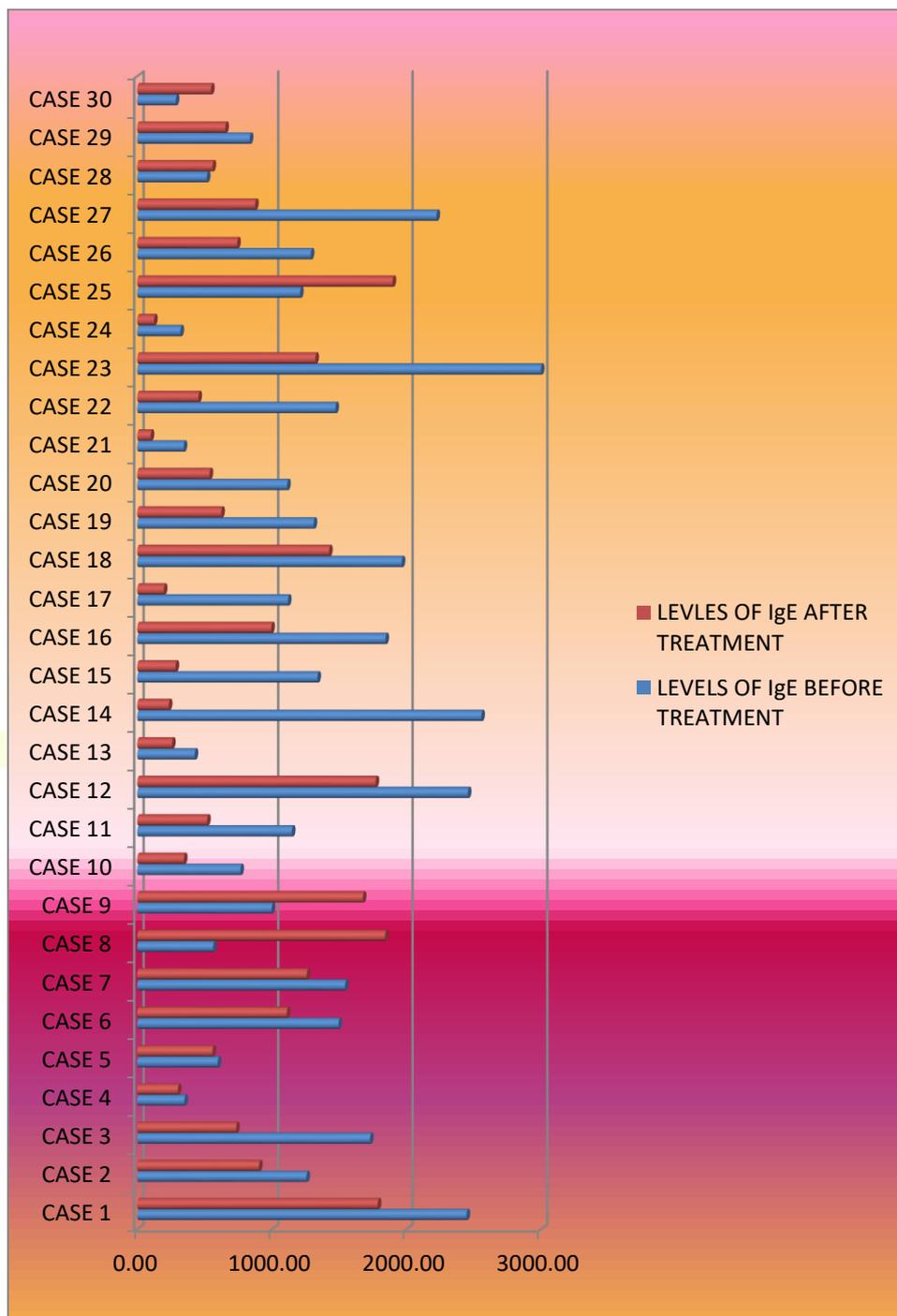
DISTRIBUTION OF CASES ACCORDING TO POTENCY



REPRESENTATION OF DURATION OF TREATMENT OF CASES



COMPARISON OF IgE LEVEL IN BLOOD



IV. DISCUSSION

The goal of this study was to determine how the level of IgE changed in patients with allergic disorders before and after receiving Silicea in the outpatient and inpatient departments of Sarada Krishna Homoeopathic Medical College. Thirty patients in all were chosen for this study based on the inclusion criteria. A thorough case study was conducted once the case was taken in detail. Based on the whole and in accordance with the Organon of Medicine and Materia medica guidelines, Silicea has been prescribed. The patients were monitored for a minimum of half a year. Pre- and post-symptom and laboratory investigation data have been recorded for the purpose of evaluating the efficacy of the treatment. Assessments for the pre- and post-tests were completed, and the t value was computed and used. According to sex ratio, 12 cases (40%) were male and remaining 18 cases (60%) were females. The prevalence of allergic rhinitis is more (40%) between 21 – 30 years of age group. In this study 22 cases (73%) were from urban areas and the remaining 8 cases were from rural areas. House wife and students were found to be affected the most of (40%) and (20%). 200 potencies were used to treat to 30 cases accounting to 100 % of the total cases. Maximum improvement was observed in the patients with the IgE level. 73 % of improvement was seen between in 1 - 10 months in 22 patients.

V. CONCLUSION

This study evaluated the changes in IgE levels in patients with allergic rhinitis. Thirty patients were chosen for this study based on the inclusion criteria. The paired "t" test is used to statistically evaluate the pre- and post-test results. The null hypothesis was rejected, and the paired t test yielded a stat value of 3.606 and a p value less than 0.05 ($p < 0.05$) at 95% significance. Here the observations from the study done on 30 patients are discussed with the comparison of available literatures. The result of the study is that homoeopathic medicines are very effective in the changes in the level of IgE in patients with allergic rhinitis by administering Silicea. Homoeopathy treats the patients as a whole and prevents the recurrence and thus improves the quality of life.

VI. ACKNOWLEDGEMENT

I would like to express by sincere thanks to The Tamil Nadu Dr. M.G.R Medical University, Chennai for the selection of my project and providing the fund for the progress of the project.

I would like to express my gratitude to my Guide **DR. M. MURUGAN M. D. (Hom.) PhD**, Professor and Head Department of Organon of medicine for his invaluable support throughout the entire study.

I convey my respectful regards to **Dr. C. K. MOHAN, B.Sc., M. D. (Hom.)**, Chairman for providing the opportunity to undertake this work and extending all necessary facilities to carry out the work.

I am thankful to **Dr. N. V. SUGATHAN, M. D. (Hom.) PhD**. Principal and Medical Superintendent for his guidance and support.

REFERENCES

1. Greiner AN, Hellings PW, Rotiroti G, Scadding GK. Allergic rhinitis. *The Lancet*. 2011 Dec 17;378(9809):2112-22
2. Bousquet J, Anto JM, Bachert C, Baiardini I, Bosnic-Anticevich S, Walter Canonica G, Melén E, Palomares O, Scadding GK, Togias A, Toppila-Salmi S. Allergic rhinitis. *Nature Reviews Disease Primers*. 2020 Dec 3;6(1):95.
3. Small P, Keith PK, Kim H. Allergic rhinitis. *Allergy, asthma & clinical immunology*. 2018 Sep;14:1-1.
4. Kurbah MD. *Clinical Study on Allergic Rhinitis and Its Homoeopathic Management* (Doctoral dissertation, Rajiv Gandhi University of Health Sciences (India)).
5. Chung HL. Clinical significance of serum IgE. *Clinical and Experimental Pediatrics*. 2007;50(5):416-21.
6. Small P, Frenkiel S, Becker A, Boisvert P, Bouchard J, Carr S, Cockcroft D, Denburg J, Desrosiers M, Gall R, Hamid Q, Hébert J, Javer A, Keith P, Kim H, Lavigne F, Lemièr C, Massoud E, Payton K, Schellenberg B, Sussman G, Tannenbaum D, Watson W, Witterick I, Wright E, The Canadian Rhinitis Working Group: Rhinitis: A practical and comprehensive approach to assessment and therapy. *J Otolaryngol*. 2007, 36 (Suppl 1): S5-S27.
7. Dykewicz MS, Hamilos DL: Rhinitis and sinusitis. *J Allergy Clin Immunol*. 2010, 125: S103-115. 10.1016/j.jaci.2009.12.989.
8. 1. Goldman, Ausiello, Cecil medicine, 23rd edition, vol-II, Reed Elsevier India private limited, first printed in India 2008, p2875-2877.
9. Naclerio RM. Allergic rhinitis. *New England Journal of Medicine*. 1991 Sep 19;325(12):860-9.
10. Small P, Kim H. Allergic rhinitis. *Allergy, Asthma & Clinical Immunology*. 2011 Dec;7:1-8.

