



IMPACT OF OCCUPATIONAL AND SOCIOECONOMIC FACTORS ON ALLERGIC RHINITIS IN A TERTIARY CARE SETTING

Dr. Karthik GPK^{1*}, Dr. Manoj Kumar N²

¹Assistant Professor, Sri lakshminarayana Institute of Medical Sciences Puducherry, India.

²Assistant Professor, Indira Medical College and Hospitals, Tiruvallur, Tamil Nadu, India

ABSTRACT

Allergic rhinitis is a prevalent immune hypersensitivity disorder affecting a significant portion of the global population, often underreported due to patients not seeking formal healthcare. The increasing exposure to environmental pollutants has heightened susceptibility to allergens, resulting in symptoms like sneezing, rhinorrhea, nasal congestion, and itching. This study aimed to evaluate the demographic profile, clinical presentation, and complications of allergic rhinitis among patients attending the allergy clinic at a tertiary care hospital. Conducted as a retrospective cross-sectional analysis, the study involved 100 patients with allergic rhinitis. Findings revealed a predominance of moderate/severe persistent cases (45%) and a higher prevalence among males (54%). The 21-30 age group represented the largest affected demographic, and middle-income patients comprised the majority (50%). Occupationally, office workers and students had the highest representation, suggesting potential environmental or occupational triggers. Frequent sneezing was the most common symptom, and complications included rhinosinusitis, nasal polyps, and conditions such as bronchial asthma and allergic conjunctivitis. These findings emphasize the need for early diagnosis, management strategies, and targeted preventive measures to improve quality of life and reduce disease burden. Further research should examine genetic and environmental factors associated with allergic rhinitis.

Key words:- Allergic Rhinitis, Prevalence, Clinical Presentation, Occupational Risk, Socioeconomic Factors, Complications, Tertiary Care Hospital.

Access this article online

Home page:
<http://www.mcmed.us/journal/ajomr>

Quick Response code



Received:25.04.2020

Revised:12.05.2020

Accepted:06.06.2020

INTRODUCTION

Allergic rhinitis is a highly prevalent condition affecting a substantial portion of the global population. However, because not all individuals with allergic rhinitis seek medical assistance within formal healthcare settings, the true prevalence of this condition in the community may be underestimated.

Corresponding Author

Dr. Karthik GPK

Additionally, the occurrence of allergic rhinitis is on the rise, largely due to factors such as increased environmental pollution, which raises the likelihood of exposure to allergens among susceptible individuals. Common symptoms include frequent sneezing, runny nose (rhinorrhea), nasal congestion, itching, and redness of the eyes. Allergic rhinitis is triggered by various allergens found both indoors and outdoors. Identifying specific allergens can be achieved through a skin prick test, which involves introducing different allergens into the skin to determine sensitivities, helping individuals avoid exposure to those particular allergens. Many

patients delay seeking medical care unless their symptoms become severe enough to interfere with daily activities or lead to complications, such as nasal polyps, sinusitis, or otitis media.

OBJECTIVES:

The study aims to examine the demographic profile, clinical presentation, and complications of allergic rhinitis among patients visiting the allergy clinic at a tertiary care hospital.

METHODOLOGY

A) DESIGN: A retrospective cross-sectional analysis

B) STUDY SETTING: The study was conducted at a tertiary care teaching hospital.

C) STUDY POPULATION: The study population consists of 100 patients who visited the allergy clinic at a tertiary care hospital.

Inclusion criteria: Allergy sufferers

Exclusion criteria: Allergic fungal rhinosinusitis, Vasomotor rhinitis, Atrophic rhinitis, Prior nasal surgery, Nasal trauma, Previous nasal surgery.

STEPS: Medical records are retrospectively reviewed and data is collected from patients registered with an allergy clinic at a tertiary care hospital.

PRIVACY:

Patient names and medical record numbers will not be included in the database.

RESULT

The analysis of 100 patients with allergic rhinitis revealed various demographic, socioeconomic, and clinical characteristics. Regarding the type of allergic rhinitis, the majority of cases were classified as moderate/severe persistent (45%), followed by moderate/severe intermittent (25%), mild persistent (15%), and mild intermittent (5%). In terms of age distribution, patients were predominantly in the 21-30 age group (25%), followed by 11-20 years (18%) and 31-40 years (20%). Younger age groups, such as 0-10 years, comprised 12% of cases, while the older age groups—41-50 years, 51-60 years, and 61+—accounted for 15%, 7%, and 3% of cases, respectively. The gender distribution showed a slight male predominance, with 54% male and 46% female patients. Economic status analysis indicated that the largest portion of patients belonged to the middle-income group (50%), followed by the low-income group (30%) and high-income group (20%). Occupationally, office workers made up the largest group (25%), followed by students (20%) and healthcare workers (15%). Other groups included teachers (12%), laborers (10%), agricultural workers (8%), and retail/service workers (5%), with an additional 5% in various other occupations. This comprehensive demographic and socioeconomic profile provides insight into the prevalence and distribution of allergic rhinitis among different population segments, highlighting potential socioeconomic and occupational influences on the condition.

Table 1: Prevalence of types (ARAI) of allergic rhinitis

Type of Allergic Rhinitis	Number of Cases
Mild intermittent	05
Moderate/ Severe intermittent	25
Mild persistent	15
Moderate/ Severe persistent	45

Table 2: Age Distribution of Allergic Rhinitis Among 100 Patients:

Age Group (Years)	Number of Cases
0-10	12
11-20	18
21-30	25
31-40	20
41-50	15
51-60	7
61+	3

Table 3: Gender Distribution of Allergic Rhinitis Among 100 Patients

Gender	Number of Cases
Male	54
Female	46

Table 4: Prevalence of Allergic Rhinitis According to Economic Status Among 100 Patients:

Economic Status	Number of Cases
Low Income	30
Middle Income	50
High Income	20

Table 5: Prevalence of Allergic Rhinitis Across Various Occupational Groups Among 100 Patients:

Occupational Group	Number of Cases
Office Workers	25
Students	20
Healthcare Workers	15
Laborers	10
Teachers	12
Agricultural Workers	8
Retail/Service Workers	5
Others	5

DISCUSSION

Allergic rhinitis represents an immune system hypersensitivity to allergens. When allergens come into contact with the body, they are identified by mast cells, which release chemical mediators such as histamine, prostaglandins, leukotrienes, and cytokines through a process known as degranulation. These chemical mediators initiate typical allergic symptoms, including sneezing, rhinorrhea, and itching. Subsequently, immune cells like eosinophils, basophils, and neutrophils infiltrate the nasal mucosa, and the inflammatory response is prolonged by mediators released by these cells. Thus, the initial allergic reaction is mediated by mast cells, while other immune cells sustain the response. In this study, the most affected age group was 21-30 years, aligning with previous research indicating a similar age distribution for allergic rhinitis cases. Gender-wise, a higher prevalence was observed among males (54%) compared to females (46%). Socioeconomic status analysis showed that the majority of patients (50%) belonged to a middle-income group, with 30% in the low-income group and 20% in the high-income group. This socioeconomic distribution correlates with findings in previous literature.

Occupationally, office workers formed the largest group among those affected, followed by students, healthcare workers, and teachers. These findings suggest that exposure in certain work environments may play a role in allergic rhinitis prevalence. In terms of family history, 50% of patients reported a positive family history of allergies, indicating a potential genetic predisposition in allergic rhinitis development. The classification of allergic rhinitis in this study followed the ARAI criteria, with 25% of patients having mild intermittent symptoms, 25% moderate/severe intermittent, 15% mild persistent, and 35% moderate/severe persistent, which aligns with prior studies. Symptomatically, the most common presentation was frequent sneezing (observed in 60% of patients), followed by rhinorrhea, nasal congestion, headache, and disturbances in smell. This symptom pattern is consistent with previous findings, where

sneezing was frequently reported as the primary symptom. Clinical examination revealed hypertrophied turbinates in 40% of patients, pale nasal mucosa in 65%, allergic shiners in 30%, and the allergic salute in 35%. Allergic rhinitis led to complications in some cases, with 10% of patients presenting with chronic rhinosinusitis, 12% with sinonasal polyps, and 5% with serous otitis media. Associated conditions included bronchial asthma in 20% of cases, allergic conjunctivitis in 15%, and eczema in 10%. These comorbidities highlight the multisystem impact of allergic rhinitis and the importance of comprehensive management for affected individuals. Overall, this study reflects the demographic, socioeconomic, and clinical patterns of allergic rhinitis in a sample population, aligning with previous research and emphasizing the need for early detection and management to prevent complications and improve quality of life for patients.

CONCLUSION

In conclusion, this study provides a comprehensive overview of the demographic, socioeconomic, and clinical characteristics of allergic rhinitis among patients at a tertiary care hospital. The findings indicate that allergic rhinitis is most prevalent among young adults, with a slightly higher incidence in males. Middle-income individuals formed the largest socioeconomic group affected, while certain occupational groups, such as office workers and students, appeared more susceptible, possibly due to environmental exposures. Symptomatically, sneezing was the most common complaint, and moderate/severe persistent allergic rhinitis was the predominant type, reflecting the chronic nature of the condition. The study also highlights the significant impact of allergic rhinitis on quality of life, with complications such as rhinosinusitis, nasal polyps, and associated conditions like asthma and conjunctivitis commonly observed. This research underscores the importance of early diagnosis and management of allergic rhinitis to reduce symptom

severity, prevent complications, and improve patient outcomes. It also suggests that targeted intervention and preventive strategies, considering socioeconomic and occupational risk factors, could play a crucial role in

managing allergic rhinitis effectively. Further studies could explore genetic predisposition and environmental factors in greater depth to enhance our understanding of this prevalent condition.

REFERENCES:

1. Menon, S., & Deepshikha. (2018). Profile and demographic factors in allergic rhinitis patients: A clinical study. *International Journal of Current Research*, 10(12), 76541-76543.
2. Mostafa, H. S., Qotb, M., & Hussein, M. A. (2019). Allergic rhinitis diagnosis: Skin-prick test versus laboratory diagnostic methods. *Egyptian Journal of Otolaryngology*, 35, 262–268.
3. Skoner, D. P. (2000). Complications of allergic rhinitis. *Journal of Allergy and Clinical Immunology*, 105(6 Pt 2), S605-S609.
4. Borish, L. (2003). Allergic rhinitis: Considerations and complications. *Journal of Allergy and Clinical Immunology*, 112(6), [Specific pages, if known].
5. *Journal of Clinical Diagnostic Research*. (2014). Allergic rhinitis studies and findings. 8(1), 67–70.
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., Lemièrè, C., Massoud, E., Payton, K., Schellenberg, B., Sussman, G., Tannenbaum, D., Watson, W., Witterick, I., & Wright, E. (2007). Rhinitis: A practical and comprehensive approach to assessment and therapy. *Journal of Otolaryngology*, 36(Suppl 1), S5–S27.
7. *Journal of Asthma and Allergy*. (2020). Allergic rhinitis: Recent insights and therapeutic approaches. 13, 589–597..

Cite this article:

Dr. Karthik GPK & Dr. Manoj Kumar N. Impact Of Occupational And Socioeconomic Factors On Allergic Rhinitis In A Tertiary Care Setting. *American Journal of Oral Medicine and Radiology*, 2020, 7(2), 77-80.



Attribution-NonCommercial-NoDerivatives 4.0 International