

Comprehensive study on demographic pattern and clinical picture of allergic rhinitis patients in a tertiary care centre

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Abstract

Background: Allergic rhinitis is one of the common diseases among the people around the globe¹ affecting their routine activity and the quality of life. Prevalence of allergic rhinitis among the general population is higher than those reported to the hospitals for treatment. **Objectives:** The study aims to analyse the demographic pattern, clinical picture and complications of the allergic rhinitis in patients attending the allergy clinic in a tertiary care hospital. **Materials And Methods:** This is a retrospective study done in a tertiary care hospital in southern India. The data from the records of the patients who attended the allergy clinic during the period from January 2020 to December 2020 is compiled and analysed to know the distribution of allergic rhinitis in population according to age, gender, socio economic status, occupation, associated systemic illness and relevant family history. **Results:** Allergic rhinitis is most commonly seen in young adults than in elderly and paediatric age group. Males are affected more than females, and low socio-economic status being another common factor. Most common presenting complaint is sneezing followed by rhinorrhoea. **Conclusion:** Allergic rhinitis is more common in younger age group, males, in lower socio-economic groups, and is potentially associated with bronchial asthma, Sino nasal polyposis, chronic sinusitis and recurrent otitis media with effusion.

Keywords: Allergic rhinitis, Sneezing, Rhinorrhoea.

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INTRODUCTION

Allergic rhinitis is a widely prevailing condition among a major percentage of global population. Since, not all the patients with allergic rhinitis are seeking medical advice in a registered health care set up, there is a possibility of underestimating the prevalence of allergic rhinitis in the

community.¹ Also, prevalence of allergic rhinitis is increasing in an uptrend due to factors like increased environmental pollution and thus increasing the chance of susceptible persons to get exposed to the allergens. Patients usually presents with frequent sneezing, rhinorrhoea, nasal congestion, itching and conjunctival congestion. Allergic rhinitis is caused by various allergens that are present inside the living area or in outdoors. Allergens can be identified by skin prick test where different type of allergens are introduced by skin prick and this helps the person to avoid exposure to the specific allergen.² Some patients do not seek proper medical treatment unless the symptoms are severe enough to disturb their day-to-day activities or developing other complications like Sino nasal polyposis, sinusitis, otitis media.³

OBJECTIVES: The study aims to analyse the demographic pattern, clinical picture and complications of

the allergic rhinitis in patients attending the allergy clinic in a tertiary care hospital.

METHODOLOGY

- A) DESIGN:** A Retrospective cross sectional study.
- B) STUDY SETTING:** The study is done in a tertiary care teaching hospital.
- C) STUDY POPULATION:** The study population comprises of 500 patients who attended allergy clinic in a tertiary care hospital.
- Inclusion criteria:** Patients who are diagnosed as allergic rhinitis
- Exclusion criteria:** Allergic fungal rhinosinusitis, Vasomotor rhinitis, Atrophic rhinitis, Previous history of nasal surgeries, Nasal trauma
- STEPS:** Details and data for the study are collected retrospectively from the medical records of the patients

who attended the allergy clinic in a tertiary care hospital and analysed.

PRIVACY: Information such as name, medical record number of patients will not be included in the database or reports of the results.

RESULTS

We observe that allergic rhinitis commonly affects young adults of age 20 to 30 years. Male are more commonly affected. The prevalence is high among people with low socio-economic status. The Most common symptom is sneezing followed by rhinorrhoea and the most common clinical signs are pale nasal mucosa followed by hypertrophied inferior turbinate. Most common systemic illness associated with allergic rhinitis is bronchial asthma.

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

	Number of Cases
Mild intermittent	95
Moderate/ Severe intermittent	108
Mild persistent	56
Moderate/ Severe persistent	241

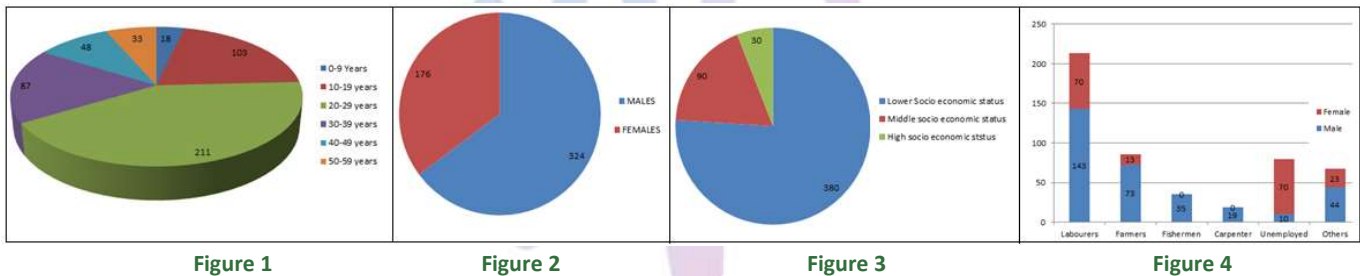


Figure 1: Age distribution of allergic rhinitis; **Figure 2:** Gender distribution of allergic rhinitis; **Figure 3:** Prevalence of allergic rhinitis according to economic status; **Figure 4:** Prevalence of allergic rhinitis in various occupational group.

DISCUSSION

Allergic rhinitis is a hypersensitive reaction by our immune system against an allergen. Allergens coming in contact with our body is recognized by the mast cells which gets degranulated and release chemical mediators like histamine, prostaglandins, leukotrienes, and cytokines. Release of these chemical mediators results in allergic symptoms like sneezing, rhinorrhoea and itching. Later the nasal mucosa gets infiltrated by immune cells like eosinophils, basophils, neutrophils, and the inflammatory process gets prolonged by the chemical mediators secreted by these cells. Thus, the initial reaction is produced by mast cells and later reaction is carry forward by other inflammatory cells.⁴ The age group commonly affected by allergic rhinitis in our study is 20 to 29 years of age (244 out of 500 patients fall within this age group in our study)

(figure1). This is comparable with the previous study in which incidence in 30 to 39 years is most common and the second common age group is 20-29 years.⁵ Gender distribution is higher towards male than females. In our study 324 male and 176 female are diagnosed to have allergic rhinitis.(figure 2) In our study 380 patients belong to low socio-economic status, 90 patients belong to middle and 30 belongs to high economic status(figure 3). This data is comparable with the previous literatures.¹ In our study 213 patients were labourers, 80 were unemployed (homemakers were included in this category), 86 were farmers, 35 were fishermen,19 were carpenters and other occupations were 67(figure 4). In our study 246 patients has history of allergy in their family members and 254 has negative family history. As per ARAI classification of allergic rhinitis, in our study 95 patients fall under Mild intermittent,108 under Moderate/Severe intermittent,56

under Mild persistent and 241 under Moderate/Severe persistent (table 1). This data from our study is comparable with the previous study published in 2020.⁶ Allergic rhinitis presents with various symptoms out of which frequent bouts of sneezing is seen in 340 patients and rhinorrhoea is seen in 273 patients, nasal congestion in 254 patients, headache in 233 patients, and smell disturbances in 241 patients. Similar to previous literature sneezing is the more common symptom in allergic rhinitis.⁷ On clinical examination, hypertrophied turbinate is seen in 265 patients, pale mucosa is seen in 398 patients, allergic shiners is seen in 174 patients and allergic salute is noted in 187 patients. Allergic rhinitis may lead to complications in few people. In our study 42 patients presented with chronic rhinosinusitis, 53 presented with sino nasal polyp, 21 presented with serous otitis media. Regarding associated systemic illness in allergic rhinitis, 173 patients in our study had bronchial asthma, 113 patients had allergic conjunctivitis, 98 patients had eczema.

CONCLUSION

Allergic rhinitis is one of the most common conditions among the patients attending the OPD. From our study it is evident that younger age group and male are commonly affected, rhinorrhoea is the common symptom and pale mucosa is the common finding. Among the complications reported in the patients noted with allergic rhinitis sino

nasal polyposis is more common. Bronchial asthma is the most commonly associated systemic illness with allergic rhinitis.

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