

Clinical Features and Risk Factors amongst Patients Presenting With Allergy

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Abstract

Background-The present study was undertaken to study the clinical features and risk factors amongst patients presenting with allergic disorders.

Methodology- The present study was a cross sectional study at Department of Pulmonary Medicine, Hamidia Hospital Bhopal, for a period of 6 months. A detailed history pertaining to sociodemographic variables was obtained from all the patients and entered in a questionnaire. Presenting symptoms, addiction if any were also enquired about and noted. All the patients underwent thorough physical examination and systemic examination and findings were noted.

Results- The study was conducted on a total of 60 patients fulfilling the inclusion criteria with the mean age of 31.2±8.1 years. Majority of patients i.e. 43.3% belonged to 26 to 35 years of age. About 65% patients presenting with allergic disorders were females and 48.3% were labour. Allergic disorders were observed in majority of residents of urban area (68.3%). Symptoms were observed in 43 patients out of 60 and most common clinical features were shortness of breath in 71.7%. The present study observed statistically significant association between diet, type of fuel, cross ventilation and family history with symptomatology ($p < 0.01$) however, no significant association was observed with smoking ($p > 0.05$).

Conclusion- Allergic rhinitis and bronchial asthma are common allergic disorders affecting the population in any age group. Smoking though is an important risk factor for respiratory tract pathology, however it was not associated with allergic disorders in present study. Other contributory risk factors responsible for allergic disorders included family history and illventilation.

Keywords- allergic rhinitis, bronchial asthma, allergic disorders, clinical features

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I. Introduction

An allergic condition is described as a hypersensitivity disorder of the body in which the immune system reacts to various substances present in the environment that are normally considered harmless. Such cases are usually chronic and are prevalent in all the age group.^[1] In the last two decades, extensive clinic-epidemiological studies have been conducted in various part of the country to identify various risk factors responsible for such occurrence.^[2] Due to continuous changes in environment as a result of human activities, incidence and prevalence of allergic disorders are on rise. Apart from environment factors, allergic disorders are believed to result from a complex interplay between genetic and environmental factors.^[3,4] Allergic rhinitis as well as bronchial asthma are the most common chronic diseases that affect the quality of life of patients. Also they are associated with significant negative impact on economic and mental health. These disorders are usually under-diagnosed and undertreated, creating considerable burden on individuals and families.^[5] It is responsible for approximately 1% of all disability-adjusted life years lost worldwide.

These allergic disorders and their complications are associated with increase in out of pocket expenditure of patients and their dependency on healthcare. Often such disorders can impair the person's ability to function. Thus it has a huge impact on social as well as economic domain of one's life, it adversely influence psychological wellbeing and quality of life. It has been observed that one allergic disorder increase the risk of other allergic disorder and may affect various organ systems.^[6] These complications of allergic disorders can be minimized if strategies are planned for its early identification followed by appropriate interventions. The mode of presentation varies for various individual. While the most common feature include sneezing and difficulty in breathing, the presentation may vary. The present study was thus undertaken to study the clinical features and risk factors amongst patients presenting with allergy.

II. Objective:

1. To study the mode of presentation amongst patients with allergic disorders
2. To find out various risk factors responsible for allergic disorders.

III. Material and Methods:

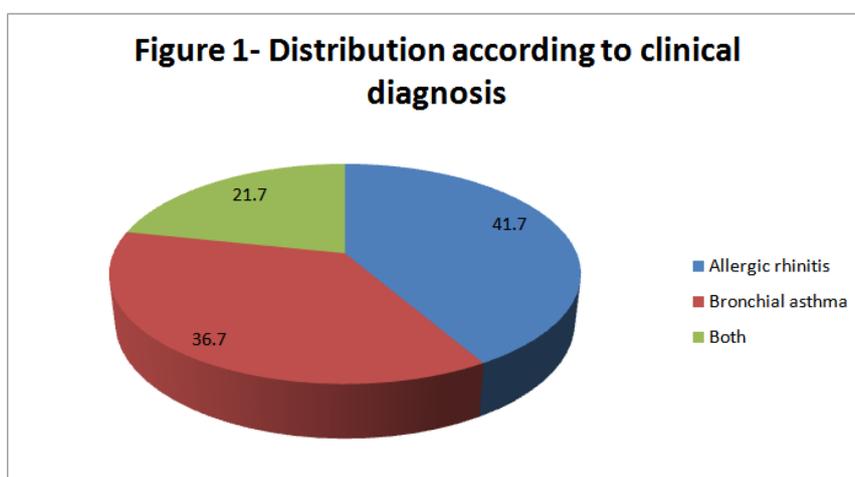
The present study was designed as a cross sectional study at Department of Pulmonary Medicine, Gandhi Medical College, and associated Hamidia Hospital Bhopal, for a period of 6 months i.e. from 15th May 2019 to 14th November 2019. All the 60 patients presenting with the allergic rhinitis or bronchial asthma or both at the study area during the study period belonging to age group 18 to 60 years and giving consent were included in the study. Patients not willing to participate, or hospitalised patients, critically ill patients were excluded from the study. After obtaining clearance from Institute's ethical committee, informed consent was obtained from all the patients. A detailed history pertaining to sociodemographic variables was obtained from all the patients and entered in a questionnaire. Mode of presentation, presenting symptoms, addiction if any were also enquired about and noted. Past history of similar episodes was also noted. All the patients underwent thorough physical examination and systemic examination and findings were noted. Blood investigation and chest Xray was conducted for all the patients. Data analysis- Data was compiled using Ms Excel and analysed using SPSS 20 software.

IV. Results:

The study was conducted on a total of 60 patients fulfilling the inclusion criteria with the mean age of 31.2±8.1 years.

Table 1- Distribution according to sociodemographic variables			
Sociodemographic variables		Frequency (n=60)	Percentage
Age group (years)	18-25	12	20
	26-35	26	43.3
	36-45	16	26.7
	46-55	5	8.3
	>55	1	1.7
Gender	Male	21	35
	Female	39	65
Socioeconomic status	Upper	4	6.7
	Middle	19	31.7
	Lower	37	61.7
Occupation	Housewives	14	23.3
	Labour/Farmer	29	48.3
	Driver	13	21.7
	Government	4	6.7
Residence	Rural	19	31.7
	Urban	41	68.3

Majority of patients i.e. 43.3% belonged to 26 to 35 years of age followed by 26.7% and 20% patients belonging to 36 to 45 and 18 to 25 years of age. About 65% patients presenting with allergic disorders were females and rest 35% were males. Maximum patients belonged to lower socioeconomic class and 48.3% were labour. Allergic disorders were observed in majority of residents of urban area (68.3%).



Majority of patients presented with allergic rhinitis in present study (41.7%) whereas 36.7% patients were diagnosed as bronchial asthma. Allergic rhinitis and bronchial asthma both were observed in 21.7% patients.

Clinical features	Frequency (n=60)	Percentage
Shortness of breath	43	71.7
Cough	41	68.3
Chest pain	19	31.7
Running nose	34	56.7
Sneezing	40	66.7
Wheeze	32	53.3
Skin allergy	11	18.3

Symptoms were observed in 43 patients out of 60 and most common clinical features were shortness of breath in 71.7% followed by cough and sneezing in 68.3% and 66.7% patients respectively.

Risk factors		Frequency	Percentage
Smoking	Yes	18	30
	No	42	70
Diet	Veg	15	25
	Mixed	45	75
Type of fuel used for cooking	Liquid petroleum	41	68.3
	Firewood	16	26.7
	Smokeless	3	5
Cross Ventilation	Yes	16	26.7
	No	44	73.3
Family History of allergy	Yes	48	80
	No	12	20

Out of 60 patients, smoking history was present in 30% patients, most common fuel used was liquid petroleum (68.3%). Cross ventilation at home was absent in 73.3% cases and positive family history was seen in 80% cases.

Risk factors		Symptoms		P value
		Present	Absent	
Smoking	Yes	12	6	0.57
	No	31	11	
Diet	Veg	3	12	0.001
	Mixed	40	5	
Type of fuel used for cooking	Liquid petroleum	36	5	0.002
	Firewood	6	10	
	Smokeless	1	2	
Cross Ventilation	Yes	3	13	0.001
	No	40	4	
Family History of allergy	Yes	42	6	0.001
	No	1	11	

The present study observed statistically significant association between diet, type of fuel, cross ventilation and family history with symptomatology ($p < 0.01$) however, no significant association was observed with smoking ($p > 0.05$).

V. Discussion:

The present study was conducted on 60 patients diagnosed with allergic disorders. Maximum patients presented with allergic rhinitis whereas 36.7% patients presented with bronchial asthma. Remaining patients had allergic rhinitis and bronchial asthma both. Allergic rhinitis has been known to have adverse effect on quality of life of patients i.e. it is associated with poor effect on mood, work, social functioning and sleep. Also it is associated with increased medical expenditure and loss of productivity in severe cases.^[7] Our study documented allergic disorders in maximum patients in the productive age group i.e. 26 to 35 years of age. Allergic disorders were more common in females as compared to males. Labour class of population, patients of urban area and patients belonging to lower socioeconomic strata were observed to be suffering from allergic disorders as compared to other group of population. These findings could be explained by the fact that patients of productive age group are predisposed to allergens present in environment due to their outdoor activity. Females are

especially prone to indoor air pollution whereas labour are exposed to outdoor air pollution. Kim et al in their study in Korea observed significantly higher occurrence of allergic disorders amongst people from higher socio-economic status.^[8]

The study aimed to study clinical features amongst patients presenting with allergic disorders and the most common clinical features were shortness of breath in 71.7% cough was observed in 68.3% and skin allergy was observed in only 18.3% cases. Joseph et al reported contrasting finding as compared to our study. They reported frequent cold in 20.8% and nasal discharge and recurrent sneezing in 16.5% patients.^[9] In present study, most common risk factor for allergic disorders were positive family history and absence of cross ventilation at home in 80% and 73.3% patients respectively and statistically significant association was observed between diet, type of fuel, cross ventilation and family history with symptomatology ($p < 0.01$) however, no significant association was observed with smoking ($p > 0.05$). These findings were supported by Joseph et al in which use of fire wood was associated with respiratory allergy. Similar to the findings of present study, other studies showed that exposure to wood or coal as cooking fuel were associated with an increase in asthma symptoms over domestic gas appliances.^[10,11] Joseph et al observed no association of smoking with respiratory or other allergic symptoms similar to findings of present study.^[9]

VI. Conclusion:

Allergic rhinitis and bronchial asthma are common allergic disorders affecting the population in any age group. Smoking though is an important risk factor for respiratory tract pathology, however it was not associated with allergic disorders in present study. Other contributory risk factors responsible for allergic disorders included family history and ill ventilation.

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