

Assessment of Bronchial Asthma Patients Visited at District Hospital

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ABSTRACT

Background: Although asthma is a major health problem in the world, there are some important issues, particularly its management. It is internationally recommended that the management of asthma should follow a step-wise standardized approach and dose/type of medication is adjusted accordingly to achieve complete symptom control and normal lung function. Hence; we planned the present study to assess patients suffering from bronchial asthma attending the OPD of department of chest and TB of M.G. Hospital, Bhilwara, Rajasthan.

Materials & Methods: We planned the present study to evaluate patients with bronchial asthma attending the OPD of M.G. Hospital, Bhilwara, Rajasthan, India. A total of 50 patients were included in the present study. We collected all the socio-demographic details of all the patients. Detailed duration of asthma was also recorded. We also collected data of environmental factors in all the patients to assess the type of pollution. All the results were recorded in Microsoft excel sheet and were analyzed by SPSS software.

Results: Mean age of the patients of the present study was 41.5 years. Majority of the subjects of the present study were uneducated (24 patients), while only 6 patients were educated

upto post-graduation level. Positive family history of asthma was found in 20 percent of the patient population of the present study. Positive cigarette smoking history in family was observed in 40 percent of the patient population.

Conclusion: Asthma is a common medical condition affecting significant proportion of population. Subjects with positive family history of Asthma should analyzed very carefully as it increases the chances of development of Asthma in the next generation.

Key words: Bronchial Asthma, Prevalence, Respiratory.

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INTRODUCTION

Bronchial asthma is a serious global health problem. 5% to 10% of persons of all ages suffer from this chronic airway disorder. An atopic diathesis, i.e., a genetic predisposition toward the production of IgE antibodies in response to pollen, house dust mites, fungi, or animal-derived proteins, is the most important risk factor for bronchial asthma.¹⁻³ In childhood, bronchial asthma is usually due to allergies; on the other hand, in 30% to 50% of adults with asthma, no allergy can be identified, at least not with the standard techniques. Non-allergic asthma in adults can arise, for example, after a viral infection of the lower respiratory tract. Viral infections can, in turn, promote the development of an allergic sensitization. Although asthma is a major health problem in the world, there are some important issues, particularly its management.⁴⁻⁶ The real issues particularly in resource limited settings like ours are patient's lack of awareness about the disease, use of alternative forms of therapy without any proven efficacy or evidence, physicians not using step-wise practice guidelines in the management of patients, and most importantly inability to afford inhalers/ medications because of the cost. It is

internationally recommended that the management of asthma should follow a step-wise standardized approach and dose/type of medication is adjusted accordingly to achieve complete symptom control and normal lung function.^{7, 8} Under the light of above mentioned data, we planned the present study to assess patients suffering from bronchial asthma attending the OPD of department of chest and TB of M.G. Hospital, Bhilwara, Rajasthan.

MATERIALS & METHODS

The present study was planned in the department of Chest and TB of the M.G. Hospital, Bhilwara, Rajasthan and included evaluation of patients with bronchial asthma attending the institutional OPD. A total of 50 patients were included in the present study. Exclusion criteria for the present study included:

- Patients with history of any other systemic illness,
- Patients with any known drug allergy,
- Patients with history of any co-existing respiratory pathology,
- Patients less than 18 years of age,

Ethical approval was obtained from institutional ethical committee and written consent was obtained after explaining in detail the entire research protocol. We collected all the socio-demographic details of all the patients. Detailed duration of asthma was also recorded. We also collected

data of environmental factors in all the patients to assess the type of pollution. All the results were recorded in Microsoft excel sheet and were analyzed by SPSS software. Univariate regression curve was used for assessment of level of significance.

Table 1: Demographic details of the patients included in the present study

Parameter	Value	
Total subjects	50	
Mean age (years)	41.5	
Gender	Males	27
	Females	23
Mean weight (Kg)	68.6	
Education (n)	Uneducated	24
	Upto secondary education	10
	Graduation	10
	Post-graduation	6

Graph 1: Demographic details of the patients included in the present study

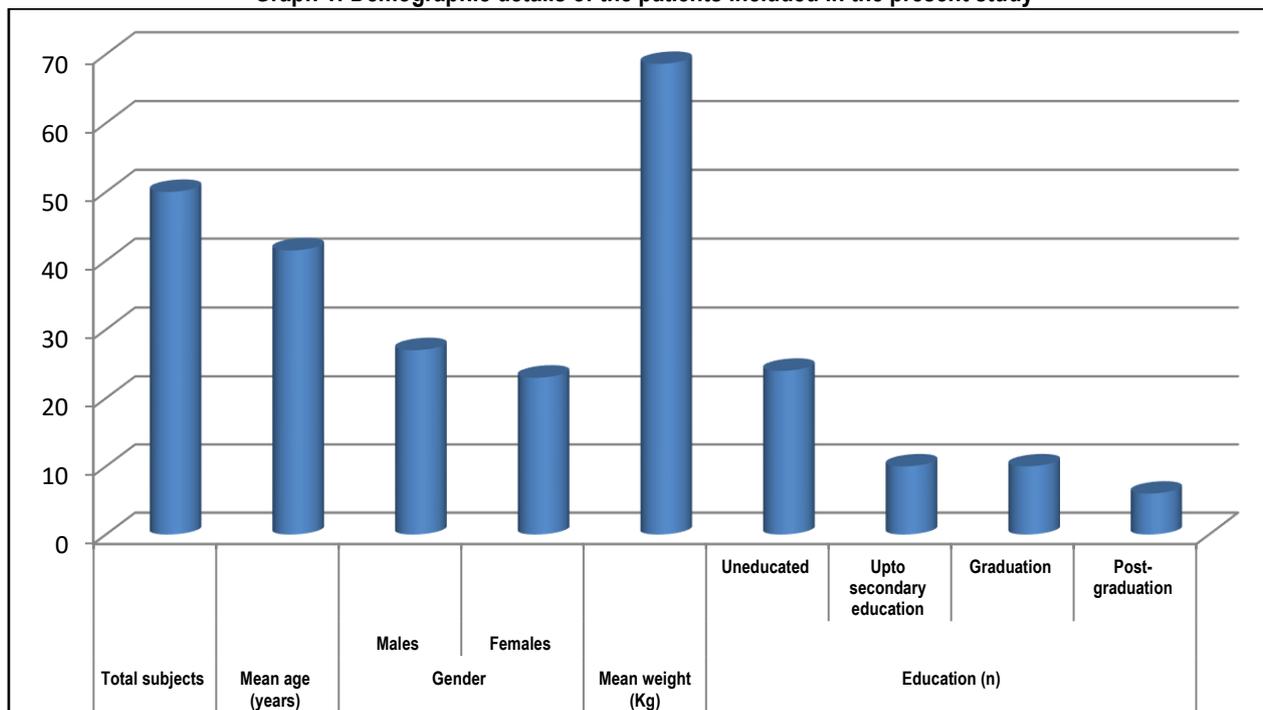


Table 2: Associated factors of bronchial asthma

Parameter	Number	p-Value
Age group (years)	Less than 20	1.05
	21 to 30	
	31 to 40	
	41 to 50	
	More than 50	
Gender	Males	0.82
	Females	
Education	Uneducated	0.02*
	Upto secondary education	
	Graduation	
	Post-graduation	
Family history of Asthma	Yes	0.01*
	No	
Positive cigarette smoking history in family	Yes	0.28
	No	

RESULTS

A total of 50 patients with bronchial asthma were included in the present study. Out of 50, 27 were males and the remaining 23 were females. Mean age of the patients of the present study was 41.5 years. Majority of the subjects of the present study were uneducated (24 patients), while only 6 patients were educated upto post-graduation level. Positive family history of asthma was found in 20 percent of the patient population of the present study. Positive cigarette smoking history in family was observed in 40 percent of the patient population.

DISCUSSION

In the present study, we observed that Positive family history of asthma was found in 20 percent of the patient population of the present study. Positive cigarette smoking history in family was observed in 40 percent of the patient population. Kumar GS et al assessed the prevalence and associated factors of bronchial asthma among school children. A cross-sectional study was conducted among 263 children studying in the 8th, 9th, and 10th standard using the modified International Study on Allergy and Asthma in Childhood questionnaire in Urban Puducherry. Data on associated factors that include family history of asthma, type of fuel used for cooking, placement of kitchen in the house, number of windows in sleeping room, pet animals, smoking among family members, birth order, and smoke outlet were collected. Data were analyzed by univariate analysis and expressed in proportion or percentages. Prevalence of ever bronchial asthma was found to be 5.3%, of which 4.2% had current episode of asthma during the last 1-year period. About 72.7% of the current asthmatics had cold or rhinitis and 54.5% each had itching or rashes and nocturnal dry cough. Prevalence is more among the 12-13 years age group (6.5%) compared to the 14-16 years age group (3.6%). Boys (5.4%) and girls (5.2%) had comparable prevalence rates. The prevalence was significantly more among those with a family history of asthma, having smoking habits in any of the family members, and the absence of smoke outlet in the house ($P < 0.05$). Intervention on exposure to passive smoking and provision of smoke outlets may help to reduce the burden of disease at the community level.⁹

Lalu JS et al estimated the prevalence of bronchial asthma among higher secondary school children and to identify various factors associated with it in Ernakulam district, Kerala, Southern India. Data were collected from 629 students from 4 randomly selected higher secondary schools using a structured questionnaire. Section on details of respiratory symptoms was adapted from International Union Against Tuberculosis and Lung Disease bronchial symptoms questionnaire. A total of 629 students participated in this study. The prevalence of bronchial asthma was estimated to be 9.9% (95% CI = 7.53%-12.27%). Students residing in a rural area (adjusted OR = 1.95, 95% CI = 1.10-3.46) having family history of bronchial asthma (adjusted OR = 2.84, 95% CI = 1.57-5.11) and usual exposure to friend's smoke (adjusted OR = 2.16, 95% CI = 1.17-3.97) were significantly associated with bronchial asthma. The prevalence of bronchial asthma was higher among higher secondary school students of Ernakulam district.¹⁰ Paramesh H summarized the epidemiology of asthma in India. Their hospital based study on 20,000 children under the age of 18 years from 1979, 1984, 1989, 1994 and 1999 in the city of Bangalore showed a prevalence of 9%, 10.5%, 18.5%,

24.5% and 29.5% respectively. The increased prevalence correlated well with demographic changes of the city. Further to the hospital study, a school survey in 12 schools on 6550 children in the age group of 6 to 15 years was undertaken for prevalence of asthma and children were categorized into three groups depending upon the geographical situation of the school in relation to vehicular traffic and the socioeconomic group of children. Group I-Children from schools of heavy traffic area showed prevalence of 19.34%, Group II-Children from heavy traffic region and low socioeconomic population had 31.14% and Group III-Children from low traffic area school had 11.15% respectively. A continuation of study in rural areas showed 5.7% in children of 6-15 years. The persistent asthma also showed an increase from 20% to 27.5% and persistent severe asthma 4% to 6.5% between 1994-99.¹¹ AL-Jahdali H et al identified the main factors that lead to the frequent admission of asthmatic patients to the ED. A cross-sectional survey of all the patients who visited the emergency room with bronchial asthma attacks over a 9-month period was undertaken at two major academic hospitals. The following data were collected: demographic data, asthma control in the preceding month, where and by whom the patients were treated, whether the patient received education about asthma or its medication and the patients' reasons for visiting the ED. Four hundred fifty (N = 450) patients were recruited, 39.1% of whom were males with a mean age of 42.3 ± 16.7 . The mean duration of asthma was 155.90 ± 127.13 weeks. Approximately half of the patients did not receive any information about bronchial asthma as a disease, and 40.7% did not receive any education regarding how to use asthma medication. Asthma was not controlled or partially controlled in the majority (97.7%) of the patients preceding the admission to ED. The majority of the patients visited the ED to receive a bronchodilator by nebuliser (86.7%) and to obtain oxygen (75.1%). Moreover, 20.9% of the patients believed that the ED managed them faster than the clinic, and 21.1% claimed that their symptoms were severe enough that they could not wait for a clinic visit. No education about asthma and uncontrolled asthma are the major factors leading to frequent ED visits (three or more visits/year), p -value = 0.0145 and p -value = 0.0003, respectively. Asthma control also exhibited a significant relationship with inhaled corticosteroid ICS use (p -value = 0.0401) and education about asthma. This study demonstrated that many avoidable risk factors lead to uncontrolled asthma and frequent ED visits.¹²

CONCLUSION

From the above results, the authors concluded that Asthma is a common medical condition affecting significant proportion of population. Subjects with positive family history of Asthma should analyzed very carefully as it increases the chances of development of Asthma in the next generation. However; future epidemiological studies are required.

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