

# Assessment of Prevalence of Asthmatic Patients Visited in Hospital

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## ABSTRACT

**Background:** Asthma is primarily a chronic inflammatory disease that tends to present as a lifelong condition, with different severity degrees throughout the asthma patient's life. Hence; the present study was undertaken for assessing the prevalence of asthmatic patients visited in hospital. **Methods:** A total of 500 patients who reported to the department were analyzed. Complete demographic details of all the patients were obtained. Complete clinical examination was carried out and details medical history and history of present illness was recorded. Diagnosis of asthma was made according to the guidelines of the American Thoracic Society for the diagnosis of asthma. A Performa was made and residence and other details of all the patients were recorded. Prevalence of asthma was recorded. All the results were recorded and were analysed by SPSS software. **Results:** Asthma was found to be present in 123 patients. Therefore; the overall prevalence of asthma was found to be 24.6 percent. Among the patients divided on the basis of age, 41 patients with asthma belonged to the age group of more than 45 years, while 47 patients belonged to the age group of 30 to 45 years. Non-significant results were obtained while assessing the correlation of prevalence of asthma among patients divided on the basis of age. Non-significant results were obtained while assessing the correlation of prevalence of asthma among patients divided on the basis of gender. Out of 123 patients with asthma, 85 patients were of urban residence while the remaining 38 patients were of rural residence. Significant results were obtained while assessing the correlation of prevalence of asthma among patients divided on the basis of residence. **Conclusion:** Asthma is a common health hazard affecting significant proportion of patient population.

**Keywords:** Asthma, Prevalence.

## INTRODUCTION

Asthma is primarily a chronic inflammatory disease that tends to present as a lifelong condition, with different severity degrees throughout the asthma patient's life. Described since Hippocrates, asthma affects people from all age groups and presents its peak incidence in childhood.<sup>[1]</sup> Recent data from the general population showed that in children up to 5 years old, the overall asthma incidence rate was 23/1,000 children per year; this incidence rate decreased among youth aged 12–17 years old to 4.4/1,000/year. Adult females had 1.8 times greater asthma incidence than adult males. A multifold increase in incidence of bronchial asthma has been reported in the past decade. This increase is attributed mainly by increasing environmental smoke and air pollution due to rapid industrialization of cities.<sup>[2-4]</sup> Prevalence has been shown to vary widely both between countries and within countries,

and has been steadily increasing alongside that of allergy, as modern lifestyles are adopted and communities become more urbanised, a trend that is predicted to continue over the next two decades. For those people affected by the disease, it can be a cause of major disability and impact greatly on quality of life.<sup>[5-7]</sup> Hence; the present study was undertaken for assessing the prevalence of asthmatic patients visited in hospital.

## MATERIALS AND METHODS

The present study was commenced in the medicine department of the medical institute with the aim of assessing the prevalence of asthmatic patients visiting the hospital. A total of 500 patients who reported to the department were analyzed. Complete demographic details of all the patients were obtained. Complete clinical examination was carried out and details medical history and history of present illness was recorded. Diagnosis of asthma was made according to the guidelines of the American Thoracic Society for the diagnosis of asthma.<sup>7</sup> A Performa was made and residence and other details of all the patients were recorded. Prevalence of asthma was recorded. All the results were recorded

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and were analysed by SPSS software. Chi-square test was used for assessment of level of significance.

### RESULTS

In the present study, a total of 500 patients were analyzed. Out of these patients, asthma was found to be present in 123 patients. Therefore; the overall prevalence of asthma was found to be 24.6 percent. Among the patients divided on the basis of age, 41 patients with asthma belonged to the age group of more than 45 years, while 47 patients belonged to the age group of 30 to 45 years. Non-significant results were obtained while assessing the correlation of prevalence of asthma among patients divided on the basis of age.

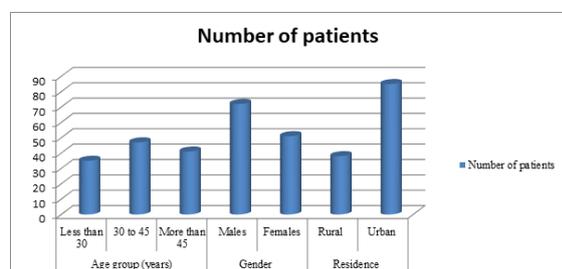
In the present study, out of 123 patients with asthma, 72 were males while the remaining 51 were females. Non-significant results were obtained while assessing the correlation of prevalence of asthma among patients divided on the basis of gender. Out of 123 patients with asthma, 85 patients were of urban residence while the remaining 38 patients were of rural residence. Significant results were obtained while assessing the correlation of prevalence of asthma among patients divided on the basis of residence.

**Table 1: Prevalence of asthma**

Asthma	Number of patients	Percentage of patients
Present	123	24.6
Absent	377	75.4

**Table 2: Correlation of asthma with age, gender and residence**

Parameter		Number of patients	p-value
Age group (years)	Less than 30	35	0.38
	30 to 45	47	
	More than 45	41	
Gender	Males	72	0.25
	Females	51	
Residence	Rural	38	0.00 (Significant)
	Urban	85	



**Figure 1: Correlation of asthma with age, gender and residence**

### DISCUSSION

Although genetic predisposition is clearly evident, gene-by-environment interaction probably explains much of the international variation in prevalence

rates for allergy and asthma. Environmental factors such as infections and exposure to endotoxins may be protective or may act as risk factors, depending in part on the timing of exposure in infancy and childhood. Some prenatal risk factors, including maternal smoking, have been firmly established, but diet and nutrition, stress, use of antibiotics and mode of delivery may also affect the early development of allergy and asthma.<sup>[8]</sup>

Observational studies examining prenatal nutrient levels or dietary interventions and the subsequent development of atopic disease have focused on foods with anti-inflammatory properties (e.g., omega-3 fatty acids) and antioxidants such as vitamin E and zinc. Several studies have demonstrated that higher intake of fish or fish oil during pregnancy is associated with lower risk of atopic disease (specifically eczema and atopic wheeze) up to age 6 years. Similarly, higher prenatal vitamin E and zinc levels have been associated with lower risk of development of wheeze up to age 5 years. However, no protective effect against the development of atopic disease in infants has been shown for maternal diets that excluded certain foods (e.g., cow's milk, eggs) during pregnancy. The authors of 2 recent studies reported an inverse relation of maternal vitamin D levels with wheeze in early life, but no relation with atopy or symptoms in later life.<sup>[9-12]</sup>

In the present study, a total of 500 patients were analyzed. Out of these patients, asthma was found to be present in 123 patients. Therefore; the overall prevalence of asthma was found to be 24.6 percent. Among the patients divided on the basis of age, 41 patients with asthma belonged to the age group of more than 45 years, while 47 patients belonged to the age group of 30 to 45 years. Non-significant results were obtained while assessing the correlation of prevalence of asthma among patients divided on the basis of age.

Hansen EF conducted a study to investigate asthma prevalence, respiratory symptoms, and lung function in young adults. Men and women aged 20–35 years were sampled. All participants answered a questionnaire on respiratory symptoms and diseases and performed spirometric tests with measurement of forced expiratory volume in one second (FEV1) and forced vital capacity (FVC). The prevalence of self-reported asthma increased from 1.5% in the first survey to 4.8% in the second survey ( $p < 0.001$ ). Asthmatic subjects had, on average, poorer lung function than non-asthmatic subjects in terms of FEV1 and this difference was more pronounced in the second survey than in the first (10.0% of predicted versus 2.4% of predicted). Smoking decreased significantly from 62% in 1976–8 to 45% in 1991–4 ( $p < 0.001$ ). Authors concluded that prevalence of self-reported asthma has increased significantly among young adults in Copenhagen over a 15 year period. The severity of asthma, as

judged by the level of FEV1, has also increased. These findings cannot be explained by changes in smoking habits.<sup>[13]</sup>

In the present study, out of 123 patients with asthma, 72 were males while the remaining 51 were females. Non-significant results were obtained while assessing the correlation of prevalence of asthma among patients divided on the basis of gender. Out of 123 patients with asthma, 85 patients were of urban residence while the remaining 38 patients were of rural residence. Significant results were obtained while assessing the correlation of prevalence of asthma among patients divided on the basis of residence. Manfreda J et al examined the variability of asthma-related symptoms and medication use among adults in 6 sites across Canada and compared our findings with those from sites that had participated in a recent European survey. They used the same sampling strategy and standardized questionnaire as those used in the European Community Respiratory Health Survey (ECRHS). The 6 Canadian sites were selected to represent different environments with respect to climate, air pollution and occupational exposure. Community-based samples of 3000 to 4000 people aged 20–44 years were randomly selected in each site. The overall response rate of those selected to receive the questionnaire was 86.5% (range 74.5%–92.8%). The prevalence rates of most asthma symptoms varied significantly among the Canadian sites. For instance, 21.9% (Montreal) to 30.4% (Halifax) of the men and 24.0% (Vancouver) to 35.2% (Halifax) of the women reported wheezing in the year before the survey. Depending on the site, 4.4% to 6.3% of the men and 5.2% to 9.5% of the women reported an asthma attack in the last year, and 4.0% to 6.1% of the men and 4.9% to 9.7% of the women were currently using asthma medication. Prevalence rates of symptoms, asthma attacks and medication use did not change with age, but they were higher among women than among men.<sup>[14]</sup>

## CONCLUSION

Under the light of above obtained data, the authors concluded that asthma is a common health hazard affecting significant proportion of patient population. However; further studies are recommended.

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