

“A Study of Clinical Profile of Asthma of Pediatric Age Group”

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Abstract: Asthma is very common in pediatric age group with immense social impact children. The prevalence of Bronchial Asthma has increased continuously since the 1970s, and now affects an estimated 4 to 7% of the people worldwide.

Aim: To study clinical profile of childhood asthmatic patients admitted in pediatric ward of our hospital.

Materials and Methods: This is a prospective study to ascertain clinical profile of asthmatic patients of pediatric age group. We studied 60 pediatric cases of bronchial asthma admitted to pediatric ward of our hospital from July 2008 to November 2010 we found that asthma is more prevalent in age group of 13 months to 5 years (38.34%), with male predominance (M=63%) with history of allergy in 36.67% of patients.

Conclusion: In our study we found statistically significant differences in clinical presentation of asthma in different age groups, gender wise, environmental wise and with different risk/triggering factors.

Keywords: asthma, passive smoking, pediatric, allergy, triggering factors.

I. Introduction

Asthma is very common in pediatric age group with immense social impact children. The prevalence of Bronchial Asthma has increased continuously since the 1970s, and now affects an estimated 4 to 7% of the people worldwide. An estimated 300 million people of all ages and ethnic backgrounds from all over the globe suffer from asthma and approximately 250,000 people a year die from it(1). While asthma is more common in affluent countries, it is by no means a restricted problem; the WHO estimate that there are between 15 and 20 million people with asthma in India. Acute asthmatic attacks cause significant morbidity and account for a significant number of emergency department consultations and hospital admissions(1-4). This study intends to evaluate clinical profile of asthmatic patients of pediatric age group.

II. Materials And Methods

This is a prospective study to ascertain clinical profile of asthmatic patients of pediatric age group admitted to pediatric ward of our hospital from 1st July 2008 to 1st November 2010.

□ Method Of Collection Of Data:

After taking informed written consent and fulfilling inclusion criteria of asthmatic patients of age group 6 months to 14 years 60 patients were included in the study.

□ Methods Of Study:

Detailed history regarding past history of similar complaints, previous hospitalizations or previous major illness, similar history or illness in family, history of any drug or history suggestive of allergy was taken. History regarding presence of any risk factor like history of allergy to dust mite, drugs, food, smoker in family as well as triggering factor like viral infection or other factors for acute exacerbation of asthma was asked. History suggesting complications of asthma or its medications was asked. History of housing, locality, school performance of patient, growth of patient was also asked. Detailed general and systemic examinations were done to assess grades of severity of respiratory distress of asthma. Patients' routine investigations like hemogram, ESR, CRP, chest X ray, AEC were done. Special investigations like CT scan of chest was done of some patients.

III. Results:

Table:1 Sex wise distribution of asthmatic patients.

Total	Male	Female
60(100%)	38(63%)	22(37%)

Table 2:Age wise distribution of asthma

Age group	Total 60(100%)	Males38 (63%)	Female22 (37%)
6months -12Months	17(28%)	11(18.34%)	6(15%)
13 months-5years	23(38.34%)	15(25%)	8(13.34%)
5years-14years	20(33.34%)	2(20%)	8(13.34%)

Table3: Residency wise distribution of asthmatic patients

Residency	Total 60(100%)	Male 38(63%)	Female 22(37%)
Rural	50(83.33%)	30(50%)	20(33.34%)
Urban	10(16.67%)	8(13.33%)	2(3.33%)

Table 4: Risk factors associated with asthmatic patients

Signs	Total 60(100%)	Male 38(63%)	Female 22(37%)
Nasal flaring	30(50%)	21(35%)	9(15%)
Tachypnoea	44(73.33%)	27(45%)	17(28.34%)
Decreased alertness	30(50%)	21(35%)	9(15%)
Cyanosis	1(1.67%)	1(1.67%)	0(0%)
Tachycardia	30(50%)	21(35%)	9(15%)

Table 5: Clinical presentation of asthmatic patients

Risk factor	Total60(100%)	Male38(63%)	Female22 (37%)
Allergy (food, dust mite, drugs)	22(36.67%)	15(25%)	7(11.67%)
Seasonal Variation	8(13.33%)	5(8.3%)	3(5%)
Family history	3(5%)	2(3%)	1(1.6%)
Passive Smoking	10(16%)	6(10%)	4(6.67%)
No risk factor	17(28.33%)	10(16)	7(11.67%)

IV. Discussion

The present study was conducted from July 2008 to October 2010 during which 60 patients were selected who were diagnosed and known case of asthma. These patients were either admitted in pediatric ward or were examined in outpatient department of our hospital. Patients' detailed history was taken and they were examined and investigated.

Out of 60(100%) patients 38(63%) patients were male and 22(37%) patients were female. (**table 1**) This suggests male predominance in prevalence of asthma. In one study conducted by **Vink N.M et al**(5) shift in the prevalence of asthma occurs between 11.1 and 16.3 years, which is due to both an increased incidence and decreased remission of asthma in female compared with male subjects. But we didn't get such finding reason could be because of small sample size and also because we didn't included female patients of age beyond 14 years. According to study conducted by **Gissler et al**(6) Childhood asthma is more prevalent in boys than in girls. Finding in our study is supportive to this conclusion. Amongst 60 patients under study 17 (28%) patients were in age group 6 months to 12 months, majority i.e.23(38.34%) patients were in age group of 13 months to 5 year and 20 (33.34%) patients were of age between 5 years to 14 years as shown in **table 2**. These results are consistent with those obtained by study conducted by **DSY Lam et al** and concluded that more than 90% of the children had their onset of asthma symptoms before 6 years of age(7). In our study 50 (83%) patients were from rural area while 10 (16.67%) patients were from urban area as shown in **table 3**. **Yemaneberhan et al**(8) conducted study on prevalence of asthma and found that asthma prevalence rate was more in urban patients compared to rural) and similar finding was obtained by **Keeley et al**(9). The results of our study were in contrast to the observations in previous studies as majority of our patients were from rural area. In our study risk and triggering factors for exacerbation of asthma were studied in details as shown in **table 4**.

A. Allergy : Asthma is a multifactorial disease As shown in table 4, out of 60 patients 22 (36.67%) patients were found to have history of allergy of agents like food, dust mite, drugs, fruits, cat hairs etc) and this finding is consistent with previous literatures.

B. Seasonal variation Out of 60 patients 8(13.33%) patients has seasonal Variation of exacerbation of asthma .this finding is supported by previous Studies as mentioned by **Robert A et al**(10).

C. Family history: In our study out of 60 patients 3(5%) patients were having Family history of asthma which is in incontinent with finding of **Wylie Burke etl**(11) 1 who stated that A family history of asthma was a significant predictor of physician diagnosed asthma in children regardless of race/ethnicity and socioeconomic status. Findings support the collection of family history, including grandparent asthma status. Similarly **Mahdi B et al** stated that family history of asthma are important determinants in the development of asthma in the offspring(12).

D. Passive smoking As shown in table out of 60 patients 10(16%) patients were having history of passive smoking .this finding is similar to finding by **Weitzman et al**(13). We could not find risk factors in 28.33% of asthmatic patients.

As shown in **table 5** depending on Clinical presentation we found that majority of our patients were presented with tachypnoea or increased respiratory rate i.e. 73.33% patients while 50% patients were presented with nasal flaring, tachypnoea, decreased alertness and cyanosis. only 3\Tachycardia was present in 30 (50%) of patients in our study. This was supported by **Kalmykova AV et al**(14) who states that The patients with bronchial asthma displayed sinus node dysregulation, insufficient vegetative providence, significant depression of peripheral sympathetic-parasympathetic regulation in general, intensification of humoral-and-metabolic influence on pacemaker cells in the sinus node, and the forming of a pathophysiological pattern of response to stimuli during tests.

V. Conclusion:

In our study of clinical profile of asthma ,38(63%) out of 60 asthmatic patients were male showing male predominance of asthma . In our study most common age group of presentation of asthma 13 months to 5 years (38.34%). we found asthma more common in rural patients though it may be because as our maximum patients come from rural area . Most common risk factor for asthma was found to be allergy and many of asthmatic patients were presented with tachypnoea while tachycardia was also found in many of asthmatic patients i.e. in 30% of patients.

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