

Prevalence of the Childhood Asthma among Children of Age 6-12 Years Old At a Tertiary Care Teaching Centre

Rupesh Kumar

Assistant Professor, Department of Paediatrics,
Narayan Medical College, Jamuhar, Sasaram, Bihar, India.

ABSTRACT

Background: Asthma is the most common chronic disease in children which causes a consistent burden on health system. The aim of the present study was assess the prevalence of the childhood asthma among children of age 6-12 years old.

Material and Methods: A cross-sectional study was conducted among 64 children of age group 6-12 years old. Before the commencement of study informed consent was signed by the parents. It is a questionnaire-based (International Study of Bronchial Asthma and Allergy in Children (ISAAC) guidelines) study which is provided in both Hindi and English. Along with questionnaire-based on ISAAC guidelines various factors that may influence the prevalence of asthma, such as age group, family history of allergic disorders, and exposure to passive smoking were also included in the questionnaire. Statistical analysis was done by using SPSS, version 22 (SPSS, Inc., Chicago, IL) and $p < 0.05$ was considered statistically significant.

Results: The results of our study show that asthma was more prevalent in boys than girls. Asthma was more prevalent in age

group 9-12 years. 35(58.33%) children had family history of asthma. 4 (6.66%) children were exposed to passive smoking.

Conclusion: Our study concluded that the prevalence of childhood Asthma was 13.33%.

Keywords: Asthma, Passive Smoking, Allergic Disorders.


*Correspondence to:

Dr. Rupesh Kumar,
Assistant Professor,
Department of Paediatrics,
Narayan Medical College, Jamuhar, Sasaram, Bihar, India.

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INTRODUCTION

Asthma is a chronic disorder of the bronchial tree, characterized by completely or partially reversible airway obstruction, which may improve spontaneously or may subside only after specific therapy. Airway hyperresponsiveness is defined as the narrowing of the airways as response to a variety of stimuli, such as allergens and nonspecific triggers and infections.¹⁻³ Asthma is a chronic disorder of both children and adults, with 300 million individuals afflicted worldwide (Global Initiative for Asthma (GINA) guidelines). Although the prevalence of asthma has increased over the last decades, especially so in children, there is still no sound explanation for this increase.⁴⁻⁶ Asthma symptoms include recurrent wheezing, coughing, chest tightness, and dyspnea, with nightly and early morning symptoms being more prevalent, whereby quality of life is often reduced.⁷ The aim of the present study was assess the prevalence of the childhood asthma among children of age 6-12 years old.

MATERIALS AND METHODS

A cross-sectional study was conducted among 64 children of age group 6-12 years old. Before the commencement of study

informed consent was signed by the parents. It is a questionnaire-based (International Study of Bronchial Asthma and Allergy in Children (ISAAC) guidelines) study which is provided in both Hindi and English. The students were educated on asthma with the presentation of short movie of childhood asthma and a lecture on asthma causes, clinical picture, diagnosis, treatment, and self-management plans followed by an explanation in detail about the contents of the questionnaire. This was followed by complete general physical and systemic examination of the children. The questionnaire was distributed to all the students and asked to show their parents and fill up with appropriate answers and return it to their class teachers on the next day. Along with questionnaire-based on ISAAC guidelines various factors that may influence the prevalence of asthma, such as age group, family history of allergic disorders, exposure to passive smoking were also included in the questionnaire. Passive smoking was defined by exposure to smoking by either of the parents.⁹ The ISAAC questionnaire format was given standard scoring system as suggested by Solé, et al.¹⁰ In the 6-9 years age group, a global cutoff score of more than or equal to five and for the age group of 10-12; the

cutoff score was six or more was the criteria for diagnosing asthma. Statistical analysis was done by using SPSS, version 22 (SPSS, Inc., Chicago, IL) and $p < 0.05$ was considered statistically significant.

RESULTS

The results of our study show that asthma was more prevalent in boys than girls. Asthma was more prevalent in age group 9-12 years. 35(58.33%) children had family history of asthma. 4 (6.66%) children were exposed to passive smoking.

Table 1: Prevalence of asthma according to gender

Gender(n)	Asthma present	p-value
Boys(35)	5 (14.28%)	<0.05
Girls(25)	3(12%)	
Total (60)	8(13.33%)	

Table 2: Prevalence of asthma according to age group

Age group (n)	Asthma present
6-9 years(37)	4 (10.81%)
10-12 years(23)	3(13.04%)

Table 3: Presence of family history

Family history	Asthma present
Present	35 (58.33%)
Absent	4(6.66%)

Table 4: Exposure to passive smoking

Exposure to passive smoking	Asthma present
Present	4 (6.66%)
Absent	2(3.33%)

DISCUSSION

The results of our study show that childhood asthma was more prevalent in boys than girls. Asthma was more prevalent in age group 9-12 years. 35(58.33%) children had family history of asthma. 4 (6.66%) children were exposed to passive smoking.

More severe asthma leads to more frequent school absenteeism which may negatively affect an individual's level of education and, possibly, choice of career. Furthermore, frequent nocturnal awakenings may cause depression, aggressive behaviour, and attention problems in adulthood.¹¹ Sanjana JM et al conducted a study in children aged 6–14 years and revealed the prevalence of asthma as 17.14% and allergic rhinitis as 21.29%.¹²

A study conducted in 2000 rural school children from Haryana identified the prevalence of bronchial asthma as just 2%.¹³

Similar study in rural schools of Karnataka showed the prevalence of ever wheezers as 8.4% and current wheezers as 5.2%. The wheezing was more prevalent in males and 10–12 age group.¹⁴

Asthma is the most common chronic illness in children, affecting approximately 8.5% of children in the United States, and is a leading cause of childhood hospitalization and school absenteeism. Asthma is more prevalent in boys in the first years of life, but in adolescents it predominates among female subjects. Asthma affects minority and low-income groups disproportionately, with African American and Latino children who live in low-socioeconomic status urban environments experiencing higher asthma morbidity and mortality than white children.^{15, 16}

Control of symptoms through interventions to reduce exposures to cockroach antigen has not been reported. Studies illustrating causal effects between outdoor air pollution and asthma prevalence are scant. Increases in asthma prevalence have occurred at the same time as general improvements in air quality. However, air quality appears to exacerbate symptoms in the child who already has the disease. Decreased pulmonary function has been associated with exposure to particulates and bronchial hyperresponsiveness to smoke, SO(2) and NO(2). Symptoms have been correlated with increased levels of respirable particulates, ozone, and SO(2). Interventions that reduce the negative outcomes in asthma associated with outdoor environmental factors have not been reported. Control of asthma in children will entail the collaborative efforts of patients, family, clinical professionals, and school personnel, as well as community-wide environmental control measures and conducive national and local policies based on sound research.¹⁷

CONCLUSION

Present study concluded that the prevalence of childhood Asthma was 13.33%.

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