

PREVALENCE OF ASTHMA IN SCHOOL AGED CHILDREN IN BAREILLY, WESTERN UTTAR PRADESHAjay Pratap¹, Nisha Pandey²**HOW TO CITE THIS ARTICLE:**

Ajay Pratap, Nisha Pandey. "Prevalence of Asthma in School Aged Children in Bareilly, Western Uttar Pradesh". Journal of Evolution of Medical and Dental Sciences 2015; Vol. 4, Issue 40, May 18; Page: 7055-7058, DOI: 10.14260/jemds/2015/1024

ABSTRACT: A cross sectional survey of 3351 school going children (5-15 years) using ISAAC (International Study of Asthma and Allergies in Childhood) questionnaire in R.M.C.H. & Rithora Centre School Aged Children, in Bareilly U.P. showed 78.22% children to have asthma (In last 12 months) and 8.57% wheezing in last 12 months. Only 5.73% children had "physician diagnosed asthma ever" suggesting under diagnoses.

KEYWORDS: Bronchial asthma, Children, Prevalence.

INTRODUCTION: Asthma is one of the most common chronic Disease. It is chronic inflammatory disorder of the airway. Chronically inflamed airways are hyper responsive. Its prevalence is increasing especially among children.^[1,2] Boys and children from poor families are more likely to have asthma. Common asthmatic symptoms are wheezing, recurrent coughing, breathlessness, chest tightness, exercise induced cough or breathlessness. Various studies from India have reported prevalence ranging from 3.5% to 29.5%.^[1-4] There is paucity of data on childhood asthma prevalence from Western Uttar Pradesh. We noticed increase number of cases at our hospital and centre, so we decided to conduct a cross-sectional questionnaire based study to find the true prevalence of asthma in Bareilly at R.M.C. H. OPD and Rithora Centre.

AIM AND OBJECTIVES: We included school going children in the age group of 5-15 years attending the OPD of RMCH and Rithora during 2013-2014. We adopted International Study of Asthma and Allergy in Childhood (ISAAC) questionnaire. The questionnaires were filled by the parents for children less than 10 years and for more than 10yearsold children directly filled the questionnaire or their parents filled for them. Those who answered yes to any questions related to asthma were labeled as probable asthmatic and were evaluated further for conformation of diagnosis including history, examination and pulmonary function test in children more than 6 years old.

Response rate was 68.5% (2266 of 3350 questionnaires were returned) and 99.29% (2250/2266) were fully filled. Children in 12-15 years age comprised the largest group (39.37%). After analyzing the questionnaires 386 children were labeled probable asthmatics. After detailed evaluation 176 of 2250 (7.82%) children were found to have asthma (In last 12 months). Prevalence of various asthma related features are depicted in Table I. Numbers of asthmatic children in different age groups were as follows: 5-8 years 51/609 (8.37%), 9-11 years 59/755 (7.81%) and 12-15 years 66/886 (7.44%). Male: female ratio in children with asthma was 1.56: 1 and 1.44: 1 in overall study population. Personal history of atopy or allergic rhinitis was present in 55.7% (98/176) and family history of asthma was present in 79 of 176(44.97%), allergic disorders (Rhinitis, conjunctivitis or skin allergy) were present in 65(36.33%) asthmatic children depicted in Table II.

Asthma related fact	Prevalence n (%)
Recurrent cough	364(16.17)
Wheezing /whistling sound during breathing ever	291(12.97)
Wheezing /whistling sound during breathing in last 12 months	193(8.57)
Physician diagnosed asthma ever	129(5.73%)
Sleep disturbance in last 12 months	121(5.37)
Wheezing/whistling sound while playing or during or after exercise in last 12 months	300(13.33)
Dry cough in night in last 12 months not associated with cold/chest infection	217(9.64)
Family h/o asthma	265(11.77)
Family h/o allergy or eczema	84(3.73)

Table 1:Prevalence of Asthma related Symptoms in Study Population (n=2250)

Total No. of asthma confirmed cases after detailed evaluation	176
Numbers of asthmatic children in different age groups were as follows: 5-8 years	51/609(8.37%)
9-11 years	59/755 (7.81%)
12-15 years	66/886 (7.44%)
Male: female ratio in children with asthma	1.56:1
Male: female ratio in children with asthma in overall study population	1.44:1
Personal history of atopy or allergic rhinitis	98/176(55.7%)
Family history of asthma in asthmatic children	79 /176(44.97%)
Allergic disorders (rhinitis, conjunctivitis or skin allergy) in asthmatic children	65/176 (36.33%)

Table 2: Prevalence of Asthma in Study Population (n=2250)

DISCUSSION: There are many studies on prevalence of childhood asthma in India with majority showing increasing trends.^[2-4] The steering committee of ISAAC, in 1998, found 6.0% Current Wheeze and 4.5% ever asthma in India, however, there were wide variations in the prevalence from different regions however there are concerns that prevalence may have been underestimated due to various reasons.^[5] Current wheeze in our study was 8.4% which are quite similar to the trends has seen in recent studies from Delhi.^[6] Physician diagnosed asthma was 5.3% in our study which is lower than current asthma, reflecting under diagnosis. In a study in school children from rural areas of Ajmer 83 of the 2416 (3.4%).^[7] and in urban area Simla school children had asthma 2.3%.^[8] which is quite low as compared to our data.^[5] Urban rural difference, higher environmental pollution and industrialization seem to be the cause of this difference.^[1,3] Similar study also done in Urban School Jaipur Rajasthan shows higher prevalence 7.59%.

We suspect that actual prevalence in Bareilly could be even higher as we also had the limitations of questionnaire based surveys including underreporting due social stigma attached with

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asthma and poor perception of symptoms and also the exercise induced asthma and mild episodic cases where symptoms may not be present and physical examinations, PEFr and spirometry may be normal.

CONTRIBUTORS: Nisha Pandey, Assistant Professor, designed the study and were involved in data collection and analysis. I prepared the manuscript and reviewed it critically.

CONCLUSION: In the present study, the prevalence of bronchial asthma in the age group of 5-15 years in Bareilly is 7.22%. It is higher than was previously understood. Only 4.48% were diagnosed case of asthma reflecting under diagnoses of asthma. This data highlights that it could be tip of iceberg. The actual prevalence of childhood asthma could be higher as the study is suffering from Berksonian bias. Overcrowding, poverty, pollution, second hand smoking, lack of proper medical facilities, poor perception of the symptoms, social stigmatization of the diagnosis are some of many factors which is contributing to the prevalence of the disease in the region. Larger and multicentre studies are needed to elucidate the true prevalence of asthma in the region.

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FINANCIAL OR OTHER

COMPETING INTERESTS: None

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Date of Submission: 17/04/2015.
Date of Peer Review: 18/04/2015.
Date of Acceptance: 09/05/2015.
Date of Publishing: 18/05/2015.