



## A prospective study of Age and sex-related difference in prevalence of Wheeze associated LRTI in children.

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### Abstract

The present study was undertaken to know the prevalence of Wheeze associated LRTI in children based on the difference in age and sex. Wheeze associated LRTI is very common illness in children. In a substantial number of cases Wheezing episodes may predispose to develop asthma and there is also age and sex-related difference in prevalence of asthma and Wheeze associated (LRTI) in children. In our study the male predominance was found in Wheeze associated LRTI patients (In total number of patients 84, the male patients were 60(71.42%) and age related difference was also present, as the greater number of patients were from 5-7 year age group (39.3%) followed by 7-9 years of age (25 %), 9-11 years of age (22.6%) and lowest prevalence was found in the age group of 13-15.

**Key words:** Wheeze associated LRTI, Prevalence, Asthma.

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### Introduction

Wheezing is a common presenting symptom of respiratory disease in children and Wheezing refers to high pitched whistling sounds audible with or even without help of the stethoscope due to partial obstruction of the bronchi and bronchioles leading to narrowing produce wheezing[1]. Asthma is a clinical syndrome characterized by increased responsiveness of the trachea-bronchial tree to a variety of stimuli.

There is definite risk of asthma in young children with recurrent Wheezing [2] and many cases of wheezing episodes are probably related to a predisposition to asthma [3].

There has been an increase in the prevalence of asthma and also wheezy illnesses but there is a paucity of information on the prevalence of Wheeze associated LRTI and particularly sex-related and age-related difference in the prevalence of Wheeze associated LRTI in children in India. The prevalence of asthma and Wheeze was found in north India were 2.3% and 6.2% (age group 6-7 years) and 3.3% and 7.8% in age group 13-14 years respectively [4]. The studies regarding risk factors for predicting asthma or wheeze during adolescence are conflicting [5]. There are reports that there is sex differences in the prevalence of recurrent wheeze by age 13, males were more likely to develop asthma than females [6].

In some studies there has been no sex-related difference in prevalence of Wheezers while in other there are higher prevalence in male than female [7,13]. Childhood asthma found among children 13-14 years of age was lower than the younger children (6 -7 years of age) and there was also urban and male

predominance with wide inter-regional variation in prevalence [8].

In other studies it was found that 20% of all children have at least one wheezing illness by 1 year of age, almost 33% by 3 years and nearly 50% by 6 years of age, while less than 15% of children are subsequently diagnosed with asthma [9]. So the present study was done to find out if there is a any predominance of Wheeze associated LRTI and age related difference in the prevalence in the same disease.

## Materials & Methods

This prospective randomized study was conducted in patients of 5 to 15 years of age patients who attended Pediatrics Out-Patient and In-Patient Department of J. N. Medical College and Hospital, AMU, Aligarh (India). The study was performed after clearance from the Institutional Ethics Committee (IEC).

The total duration of study was 3 years. The patients of 5-15 year age having Wheeze audible on auscultation or unaided with ear were included in our study if patients or their parents/guardian have given their consent. A detailed history was recorded with emphasis on recent symptoms, previous episodes, family history of allergy, asthma, smoking (including family history of smoking) and treatment history prior to visit and complete physical and systemic examination of each patient was performed and recorded on pre-designed proforma.

**Selection criteria:** All children presenting with first or recurrent episodes of Wheeze associated with lower respiratory tract illness were selected in age group 5 to 15 years except those which are also having other serious illnesses.

The total numbers of patients in our study were 84. The base line characteristics (e.g. age, sex, weight, height and weight for age) of the patients were also recorded.

## Result and Discussion

The patients in our study of Wheeze associated LRTI were maximum in age group 5-7 year of age (39.3% ) followed by 7-9(25 %), 9-11(22.6%) and the lowest prevalence was found in age group 13-15 years of age. The childhood asthma prevalence has also been reported lower in children of 13-14 years of age than the

younger children, 6-7 years of age [8]. The male predominance has been found in our study wheeze associated LRTI children. In total number of patients (84) the male patients were 60(71.42%). It means the male predominance is also present in patients of wheeze associated LRTI as it is present in most of the study for Asthmatic patients.

We know from some studies that atopy and airway hyper-responsiveness are associated with childhood wheeze in both sexes (male and female). In some studies atopy may be continuing to be a risk factor for the development of wheeze through adolescence in males and it may not be an important a risk factor for adolescent-onset wheeze in females [5]. In our study male predominance has been found for wheeze associated LRTI patients. There are many studies in the support of male predominance for Asthma. It was suggested in some studies that asthma may be an X-linked recessive disorder, males should have a higher incidence of disease because they have only one copy of the X chromosome, however females need an abnormal X chromosome from both parents to manifest the same [5]. From present study we can say there is male predominance in wheeze associated LRTI patients although we don't have definite explanation for it. Our finding were in consistent with the finding of other studies that the incidence of asthma is greater in males than in females until age 12 to 13 years [10,11 & 12].

## Conclusion

From the present study it can be concluded that there is a male predominance in the children suffering from wheeze associated LRTI and there is also age related dominance of disease in such children. More detailed studies are needed to explain the basis of this age and sex-related difference prevalence in patients of wheeze associated LRTI and asthma.

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