

Risk factors for recurrent wheezing in children at the first four years of life.

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Abstract

Infants, from six months until three years old, that have at least three wheezing episodes along three months time are considered wheezing babies. There are several risk factors for wheezing episodes and studying each one of them can improve treatment, control frequency and diminish severity of cases. This is a prospective and transversal study that aimed to analyse risk factors for recurrent wheezing in 49 children up to four years old. Older children or those that are exposed more than three times a week to sunlight can be protect from wheezing episodes. Having Upper Respiratory Tract Infections-URTI and "laughing or crying" as triggering factors can lead to more wheezing episodes.

Key words: wheezing; risk factor; children

Introduction

There are many risk factors for Wheezing¹. This study aims to analyse risk factors for recurrent wheezing in children up to four years old.

Results and Discussion

This is a prospective and transversal study with 49 wheezing children at an outpatients pediatric pneumology clinic at the medical center of the Medical School from the State University of Campinas.

Our patients were divided in two Groups according to: having at least one wheezing episode in the last four weeks, Group I; or not, Group II.

Following data about patients were collected: gender, rural or urban origin, ethnic origin, type of birth and gestational age, breastfeeding, vaccines taken, if the child attends to preschool, if it's passive smoker or if the mother smoked through gestation, triggering factors for wheezing, sun exposure, wheezing on the last four weeks and the age of the onset of the wheeze.

We applied Chi-squared, Fisher's exact test, Kruskal-Wallis statistical tests and estimated the odds ratios values ($p < 0,05$).

Out of the 49 children analysed, the mean age was $22,90 \pm 11,59$, median 21(7-48) months. Data's analysis showed that younger children present more episodes of wheezing during the last four weeks ($p < 0,001$).

Our results showed that those included in Group I frequently had as triggering factors Upper Respiratory Tract Infections-URTI and laughing or crying. Other studies showed similar results.²

The data showed that the chances of having wheezing episodes on the last 4 weeks are 5,29 times greater on those that were not exposed to the

sun (less than three times a week) (OR= 5,29 [IC 95% 1,27 – 22,04] $p = 0,016$), see chart 1.

Chart 1. Risk factors compared to having or not wheezing episodes in the last four weeks.

	Group I	Group II	Total	p
	N (%)	N (%)	N	p
Cases	29 (59,2)	20 (40,8)	49	
Triggering factors - URTI				
Yes	28 (71,8)	11 (28,2)	39	0,001**
No	1 (10,0)	9 (90,0)	10	
Triggering factors - Laughing or crying				
Yes	16 (88,9)	2 (11,1)	18	0,001*
No	13 (41,9)	18 (58,1)	31	
Sun exposure				
Yes	15 (46,9)	17 (53,1)	32	0,016*
No	14 (82,4)	3 (17,6)	17	

Group I: children that had at least one wheezing episode in the last four weeks.
Group II: children that did not have wheezing episodes in the last four weeks.
URTI: Upper Respiratory Tract Infection. N (%): percentage of cases out of total. Statistical test: (**) Fisher's exact test; (*) Chi-squared;

Conclusions

Children that are older or those that are exposed more than three times a week to sunlight can be protect from wheezing episodes. Having URTI and "laughing or crying" as triggering factors can lead to more wheezing episodes.

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