

THE PREVALENCE OF WHEEZING AT CHILDREN FROM FIRST AND EIGHTH FORM IN SIBIU

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Keywords: wheezing, prevalence, school children

Abstract: In Romania there are only few epidemiological studies on asthma, so that a study on prevalence of asthma and wheezing in particular is, I think, welcome. This study was conducted on two groups of school children in Sibiu - 945 children from 1st forms and 715 from 8th forms. ISAAC questionnaires were used, and there were analyzed the prevalence of wheezing, the number of seizures per year, the association of secondary disorders such as sleep or speech disorders, than the presence of asthma, as also the association with exercise and dry cough at night. The prevalence of previous asthma diagnosis in the two groups analyzed by us was 3,17% in children of 1st form, respectively 5,31% in the 8th form children. In a study of asthma prevalence in children from Cluj-Napoca this prevalence was at the 8th form children 3,3% in 1995 and increased to 5,5% in 2001, therefore, absolutely comparable with our data.

Cuvinte cheie: wheezing, prevalență, copii școlari

Rezumat: În România există doar câteva studii epidemiologice despre astmul bronșic, încât un studiu despre prevalența astmului bronșic și mai ales a wheezingului este, considerăm, binevenit. Studiul de față s-a efectuat pe două loturi de copii școlari din Municipiul Sibiu – 945 de copii de clasa a I-a și 715 copii de clasa a VIII-a. S-au folosit chestionare ISAAC, prin care s-au urmărit prevalența wheezingului, a numărului de crize/an, asocierea unor tulburări secundare, precum cele de somn sau de vorbire, respectiv prezența astmului bronșic și asocierea wheezingului cu efortul fizic și respectiv tusea seacă nocturnă. Prevalența diagnosticului anterior de astm în loturile analizate de noi a fost de 3,17% la copiii de clasa a I-a, respectiv 5,31% la copii de clasa a VIII-a. Într-un studiu efectuat la Cluj-Napoca, prevalența astmului la copiii de clasa a VIII-a a fost de 3,3% în anul 1995 și a crescut la 5,5% în anul 2001, deci, absolut comparabil cu datele noastre.

INTRODUCTION

Asthma is one of the most important diseases of childhood, causing substantial morbidity (1–3). Increases in rates of hospitalization and primary care for asthma in childhood (4, 5) led to concern that the prevalence or severity of disease may be increasing in children.

THE AIM OF THE STUDY

This paper is propose to determine the prevalence of wheezing and the related symptoms in two age groups of children from Sibiu.

MATERIAL AND METHOD

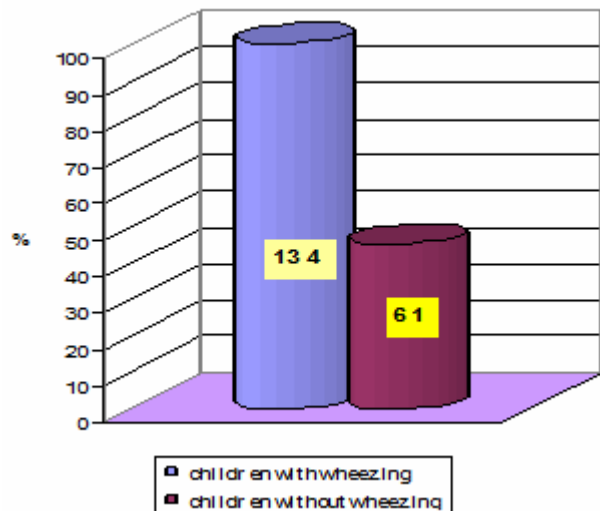
It was used the ISAAC questionnaire (International Study on Asthma and Allergic Diseases in Children), which were applied in 2010 to 945 children of the first form and to 715 of eighth form from various schools in the city of Sibiu. Using these questionnaires, we followed a series of parameters: the presence of wheezing, the number of episodes of wheezing per year, presence of sleep and speech disorders caused by wheezing, the presence of asthma and wheezing association with effort and nocturnal dry cough.

RESULTS

From the first group of children of first form, 134 presented wheezing. From these, 61 (45.52%) had wheezing in

the last year (fig. 1), girls/ boys report being equally, approximately the same number in girls (31) and boys (30).

Figure no. 1. Prevalence of wheezing in the group analyzed in the last year



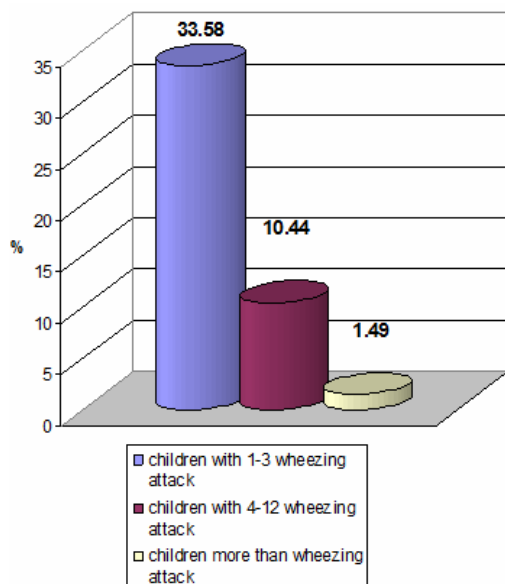
About wheezing crises, 45 (33.58%) children experienced 1-3 attacks of wheezing in the last year, 4-12

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CLINICAL ASPECTS

wheezing attacks in the last year had 14 children (10.44%), and more than 12 episodes of wheezing in the last year occurred in 2 children (1.49%)(fig. 2). 27 girls (20.14%) and 18 boys (13.43%) experienced attacks of wheezing in the last year, 4-12 wheezing attacks in the last year had 6 girls (4.47%) and 8 boys (5.97%). More than 12 episodes of wheezing in the last year were present at 0.74% of the children, a boy and a girl.

Figure no. 2. The frequency of wheezing attacks in the last year

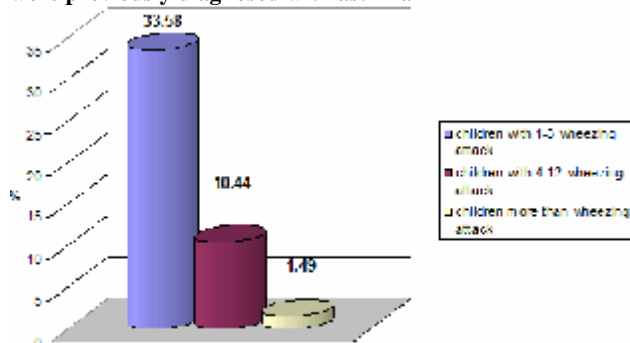


In the last year, had sleep disorders less than once per week 25 children (18.65%), respectively 13 girls (9.70%) and 12 boys (8.95%). Once or several times a week sleep disorders had 5 children (3.73%), 3 girls (2.23%) and 2 boys (1.49%).

Wheezing due to severe speech problems were presented in 14 children (10.44%), 6 girls (4.47%) and 8 boys (5.97%).

14 girls (10.44%) were diagnosed with asthma and 16 boys (11.94%), that's mean 30 children (22.38%) of the 134 children with wheezing (fig. 3). Compared to the total number of analyzed children, asthma was previously diagnosed at 3.17% of children in first form.

Figure no. 3. Distribution of children with wheezing who were previously diagnosed with asthma



Ratio girls/ boys was equal, 12 girls and 12 boys (8.95%) had wheezing due to physical effort, totally in 17.91%.

Nocturnal dry cough was present in 93 (69.40%) of the children, 52 were girls (38.80%) and 41 were boys (30.95%).

Regarding the *second group* of patients, all children of

the 8th forms in Sibiu were analyzed prospectively with the ISAAC questionnaires.

From the 715 children who completed these questionnaires, 190 children (26.57%) had wheezing in the past, and among them 75 children (39.47%) in the last year. 50 were girls (26.31%) and 25 boys (13.15%).

63 children (33.15%) had wheezing 1-3 times in the recent months (33 girls and 30 boys), 4-12 times had 10 children (5.26%), (4 girls and 5 boys) and 2 girls were over 12 times in the past year wheezing (1.05%)(fig. 4).

Sleep disorders once a week due to wheezing had 23 children (12.10%), including 13 girls (6.83%) and 10 boys (5.26%) and several times a week 4 children (2.10%) - 2 girls and 2 boys (1.05%).

21 children (11.05%) had speech difficulties due to wheezing - 15 girls (7.89%) and 6 boys (3.15%).

38 children were diagnosed with asthma (20%), the ratio girls/boys being 1/1 (fig. 5).

Figure no. 4. The prevalence of wheezing attacks in the last year

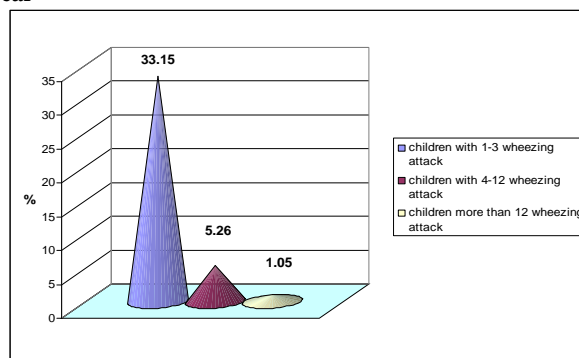
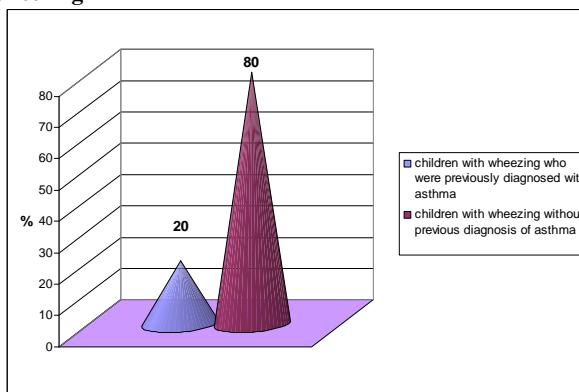


Figure no. 5. The presence of asthma in children with wheezing



Compared to the total number of analyzed children, asthma was previously diagnosed at 5.31% of eighth form children.

89 of the children (46.84%) had wheezing during or after exercise (fig. 33). Of these, 40 were girls (21.05%) and 49 were boys (25.84%).

159 children had dry cough (83.68%) at night - 102 were girls (53.68%) and 57 were boys (30%).

DISCUSSIONS

The prevalence of previous asthma diagnosis in the two groups analyzed by us was 3,17% in children of 1st form, respectively 5,31% in the 8th form children. In a study of asthma prevalence in children from Cluj-Napoca this prevalence

was at the 8th form children 3,3% in 1995 and increased to 5,5% in 2001, therefore, absolutely comparable with our data.

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Asthma is more common in developed countries, the highest rates being in the U.S. (Tucson 26.8%), New Zealand (22%), Australia (24.3%) and England (23%), and minimum rates being in China (1.1%), Kenya (1%) and Eastern and Central Europe (Romania 10%, Poland 8%, Letonia 7%, Georgia 5%).

Prevalences of asthma and wheezing is similar to that reported in the one Romanian study from Cluj-Napoca, and those from other countries in Eastern and Central Europe.

CONCLUSIONS

1. There was an increased prevalence of wheezing illness in children in civilized countries, including asthma.
2. In Romania there are only few epidemiological studies on asthma, so that a study on prevalence of asthma and wheezing in particular is, I think, welcome.
3. This study was conducted on two groups of school children in Sibiu - 945 children from 1st forms and and 715 from 8th forms.
4. ISAAC questionnaires were used, and there were analyzes the prevalence of wheezing, the number of seizures per year, the association of secondary disorders such as sleep or speech disorders, than the presence of asthma, as also the association with exercise and dry cough at night.
5. From the children of 1st form, 14.18% had wheezing, from the eighth form of even 26.57%.
6. In both groups are predominantly the cases with rare attacks (1-3/year).
7. At 18.65% of the first group of young children were present sleep disorders, often even at 3.73%. At the group of children in 8th form only 12.1% had sleeping difficulties, caused by wheezing.
8. Approximately 10% of children from the 1st form had in class because I had wheezing and speech disorders, caused by wheezing, and 11% of the 8th form group of children
9. Approximately 22% of wheezing children from 1st form were diagnosed with asthma, respectively 3.1% of the total number of studied children. The situation was similar in the group of 8th form children (20%), but the prevalence reported to the total number of children was 5.31%.
10. At approximately 18% of 1st form children wheezing occurred due to physical exercise, at the 8th form children even at 46.84%
11. Nocturnal dry cough was present at 69.4% of children with wheezing from the 1st form and at the 8th form children even in 83.68%.

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