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*The influence of the living conditions on the diagnostics process
and treatment of bronchial asthma of developmental age
based on the author's own material*

Bronchial asthma is one of the most frequent chronic diseases of developmental age. The chronic character of respiratory tract inflammation is underlined in the definition of asthma. This is the cause of bronchial hyperexcitability and bronchospasms, which results in the episodes of wheezing breath, dyspnoea and pressure in chest. The occurrence of bronchial asthma with children is connected with individual predisposition to development of atopic disease as well as with the presence of specific environmental conditions. Specific factors include food, inhalatory and contact allergens. Non-specific factors include infections, air pollution, and passive smoking. Environment conditions have a significant influence on the course of the disease. The aim of this work is to estimate the frequency of occurring bronchial asthma in children and the influence of living conditions on the diagnosis and treatment processes.

MATERIAL AND METHODS

The researches were held from 2000 to 2002 and were completed on the group of 43 children aged from 8 months to 14 years. The children attended the Paediatric Counselling and complained about chronic cough or symptoms of wheezing breath. The initial diagnosis included taking a history of a patient and his/her family, physical examinations, and supplementary haematological investigation (blood cell count, blood smear, eosinophilia, the presence of parasites, RTG, PEF measurement). The final diagnosis was confirmed after a specialist consultation. After introduction of medical treatment, the follow-up examinations were recommended every 4–6 weeks. The examined group of children was divided according to the age and sex, physical examination results and environmental data. Special attention was paid to the birth weight, the way of feeding during infantile age, burdening with atopy of a child and his/her parents, conditions of living, passive smoking, and presence of pets – a cat or a dog.

Table 1. Specification of the basic data referring to the number of children in the examined groups. Sex and age are taken into consideration

Group	Number						Aged x ± SD	Aged min-max
	n	%	k	%	m	%		
I	3	7	2		1		10	8–10 months
II	11	26	7		4		1.8	1–3 years
III	8	18	3		5		4.5	4–6
IV	12	28	5		7		7.2	7–10
V	9	21	5		4		12.6	11–14
Total	43	100	22		21		5.4	8 months –14 years

RESULTS

In the examined group the children with proper birth weight (89%) who were breast-fed at least for 6 months (78%) predominated. In 23% of cases the living conditions were qualified as inconvenient (dumpiness, a lot of people lining in, and, in one case, the lack of running water. 63% of children were in a risk of passive smoking in their place of living. In all age groups the children from the families burdened with atopy dominated (98%). In 44% of cases a pet was present in the place of living.

In the examined material the highest percentage of children with diagnosis was observed in groups of children aged 7–10. In this group the boys living in difficult conditions prevailed. A high percentage of young children aged 2–3 years were observed. In this group the girls living in good living conditions prevailed.

The period between the initial diagnosis and confirmation of bronchial asthma was analysed. On the basis of the present experience it has been possible to claim that parents of children aged 4–6 have had the highest consciousness of necessity of urgent diagnosis and medical treatment. Treatment of bronchial asthma was introduced in 98% of cases. Parents of one boy did not agree to subsequent diagnosis and medical treatment although the bronchial asthma was confirmed. In the examined group no essential statistical effectiveness of treatment regarding the sex or the living conditions was found.

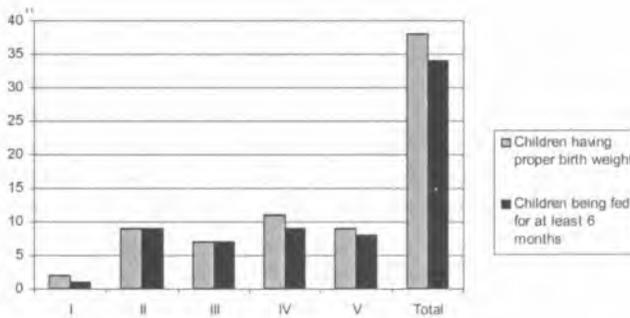


Fig. 1. Specification of the basic data referring to birth weight and the way of feeding in the infancy period

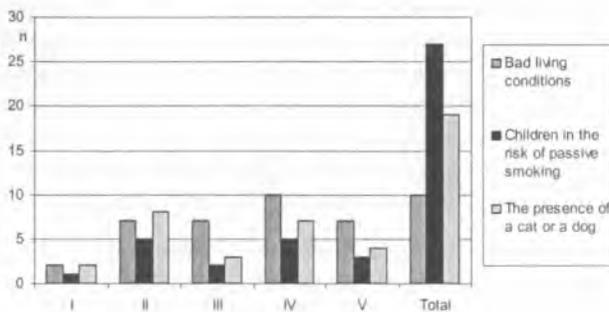


Fig. 2. Specification of the basic data referring to living conditions

DISCUSSION

Among different factors conditioning bronchial asthma, influence of living conditions on the course and prognosis of the disease was underlined (1, 2, 5). Numerous authors emphasised the low birth weight and incorrect diet as conductive factors to appearance of bronchial asthma (3). Passive or active smokings were included in the risk factors of asthma. It was proved that concentration of allergens

in the early childhood could be one of the important agents determining bronchial asthma (7). The most important inhalatory allergens contain Acarina, grass and trees pollens, and dogs' and cats' hair (1, 6). Their influence on the development of bronchial asthma was the subject of numerous researches, although the obtained results were not unanimous (4). One group of authors claimed the exposure to these allergens prevented the appearance of allergy in subsequential of tolerance development. According to others it was the essential risk factor of bronchial asthma.

In the recent years the frequency of occurrence of bronchial asthma has been increasing. All the authors underline the influence of the living conditions on the process of inducing the bronchial asthma. The presented analysis confirms the role of environmental epidemiology in the setting of true relationship between the diagnosis of asthma and the exposure to specific environmental factors.

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SUMMARY

Bronchial asthma is one of the most frequent chronic diseases of developmental age. The occurrence of bronchial asthma with children is connected with individual predisposition to development of atopic disease as well as with the presence of specific environmental conditions. Specific factors include food, inhalatory and contact allergens. Non-specific factors include infections, air pollution, and passive smoking. Environment conditions have the significant influence on the course of the disease. The aim of this work is to estimate the frequency of occurring bronchial asthma with children and the influence of living conditions on the diagnosis and treatment processes. The researches were completed on the group of 43 children aged from 8 months to 14 years. The children attended the Paediatric Counselling and complained about chronic cough or symptoms of wheezing breath. The initial diagnosis included taking a history of a patient and his/her family, physical examinations, and supplementary investigation. The final diagnosis was confirmed after a specialist consultation. After introduction of medical treatment, the follow-up examinations were recommended every 4–6 weeks. In the examined group the children with proper birth weight (89%) who were breast-fed at least for 6 months (78%) predominated. In 23% of cases the living conditions were qualified as inconvenient. 63% of children were in a risk of passive smoking in their place of living. In all age groups the children from the families burdened with atopy dominated (98%). In 44% of cases a pet was present in the place of living. In the examined material the highest percentage of children with diagnosis was observed in groups of children aged 7–10. In this group the boys living in difficult conditions prevailed. A high percentage of young children aged 2–3 years were observed. In this group the girls living in good living conditions prevailed.

On the basis of the present experience it has been possible to claim that parents of children aged 4–6 have had the highest consciousness of necessity of urgent diagnosis and medical treatment. Treatment of bronchial asthma was introduced at 98% of cases. In the examined group no essential statistical effectiveness of treatment regarding to sex or the living conditions was found. The presented analysis confirms the role of environmental epidemiology in the setting of true relationship between the diagnosis of asthma and the exposure to specific environmental factors.

Wpływ warunków środowiska na proces diagnostyki i leczenia astmy oskrzelowej
wieku rozwojowego na podstawie materiału własnego

Astma oskrzelowa jest najczęstszą przewlekłą chorobą wieku rozwojowego. Wystąpienie astmy oskrzelowej u dziecka związane jest z osobniczą predyspozycją do rozwoju choroby atopowej, jak również ze współdziałaniem określonych warunków środowiska. Celem pracy była ocena częstości występowania astmy oskrzelowej u dzieci i wpływ warunków środowiska na proces diagnostyki i leczenia. Badaniem objęto 43 dzieci w wieku od 8 mies. życia do 14 lat. Dzieci zgłaszały się do Poradni Pediatrycznej z powodu przewlekłego kaszlu lub objawów tzw. „świszczącego oddechu”. Wstępna diagnostyka obejmowała wywiad osobniczy i rodzinny, badanie przedmiotowe, badania dodatkowe. Rozpoznanie końcowe potwierdzano po konsultacji specjalistycznej. Po wprowadzeniu leczenia zalecono badania kontrolne co 4–6 tygodni. W badanym materiale największy odsetek dzieci z potwierdzonym rozpoznaniem wstępnym zaobserwowano w grupie 7–10 lat. W grupie tej przeważali chłopcy zamieszkali w trudnych warunkach mieszkaniowych. W badanym materiale zwraca uwagę stosunkowo wysoki odsetek dzieci młodszych w wieku 2–3 lat. W tej grupie przeważały dziewczynki z dobrych warunków mieszkaniowych. Dotychczas zebrane doświadczenia pozwalają stwierdzić, że świadomość szybkiej diagnostyki i leczenia dzieci jest największa u rodziców dzieci w wieku 4–6 lat. W badanej grupie brak podstaw do stwierdzenia istotnych statystycznie zależności skuteczności leczenia od płci lub warunków środowiskowych pacjenta. Przedstawiona analiza potwierdza rolę badań epidemiologii środowiskowej w ustaleniu rzeczywistej relacji pomiędzy rozpoznaniem astmy a narażeniem na określone oddziaływania czynników środowiskowych.