

ABSTRACT

BACKGROUND: Asthma is one of the most often occurring children chronic diseases and its prevalence is steadily increasing. A lot of risk and protective factors influencing the development of asthma and atopic diseases have been described. It is necessary to gain more information about these factors, though.

AIM: To compare two different groups of children (the asthmatics and the reference group) being influenced by different risk and protective factors for developing asthma. Analysing the risk factors may help us to design preventive programmes and broaden the knowledge of pathobiology of the disease.

METHODS: 3848 structured anonymous questionnaires were sent to various primary schools round the Czech Republic. The questionnaires were completed by parents on behalf of their children. The aim of the questionnaires was to examine the prenatal conditions and postnatal conditions at the age of the first two years, at 6th-7th, 12th-13th year of age. In this study we focused on postnatal conditions of children. 2050 completed questionnaires were sent back and we focused on the group of 118 asthmatic children and 765 non-allergic children as the reference group. Children were born in years 1992-1993 and all come from the Czech Republic. Answering positively the question about asthmatic symptoms and using antiasthmatic pharmacotherapy, children were indicated as the asthmatics. The reference group consisted of children who had never had any allergic symptoms, never used anti-allergic medication and their skin prick tests for the most common allergens were negative.

RESULTS: As statistically significant risk factors emerged the type of residence (block of flats), dampness and mold of walls in the houses, selected health problems of children's blood relatives, otitis media, ectomy of tonsils and adenoids, insufficient duration of breast feeding period, timing of food (other than breast milk) introduction (first three months of life), gastrointestinal discomfort after ending of breast feeding period, showering once a week or less till two years of age, delayed entrance to pre-school centres and to school, delayed return to children centres after recovery from illness with elevated temperature (more than one week), return of illness with elevated temperature in three months, frequent occurrence of fever illnesses, frequent use of antibiotics, occurrence of children selected illnesses, use of anthelmintic pharmacotherapy and poor contact with animals.

As statistically significant protective factors emerged the type of residence (family houses), dry walls (without dampness or mold) in the house, sufficient duration of breast feeding period, timing of other food than breast milk since 3,8 months of age, alternation of vegetable and animal fat, meat in the child's nutrition two-four times per week, return to children centres after recovery from illness with elevated temperature in one week, return of illness with elevated temperature after three months, absence of fever illnesses or their occurrence just once a year, no use of antibiotics or their use just once a year, absence of selected children illnesses, no use of anthelmintic pharmacotherapy and daily contact with chosen animals.

We did not prove any positive or negative effect of size of living area (number of inhabitants), smoking in the household, weight of child (BMI), gastrointestinal discomfort during breast feeding period and the effect of occurrence of chicken-pox.

CONCLUSION: It was proved that a lot of postnatal factors can be associated with the developing of asthma in the childhood. These postnatal factors influence the development of immune system mainly during early childhood. Immune system is the most sensitive to factors of surroundings in this period.