

4. Results - summary

short communication

The ECAP survey was carried out in over 22 700 subjects in nine regions of Poland with nearly a quarter of all subjects undergoing subsequent thorough medical evaluation.

The study is unique in many ways as described in the introduction and its results show that the prevalence of allergic disorders in the Polish population is one of the highest worldwide. Depending on the region and gender, the symptoms and signs of allergic disorders are reported by as large percentage as 40% of the respondents (Fig. 5.4), inflammatory conditions of the nasal mucosa affect over 35% of the inhabitants of some large cities and allergic rhinitis is found in 25% of the population. Diagnosed asthma occurs in 10% of the study population, but in children in e.g. Wrocław and Warsaw its symptoms are reported by almost 28% and 22% of the subjects respectively (Section 4.1). The survey findings (mean values) are presented in Figs 4.1, 4.2 and 4.3.

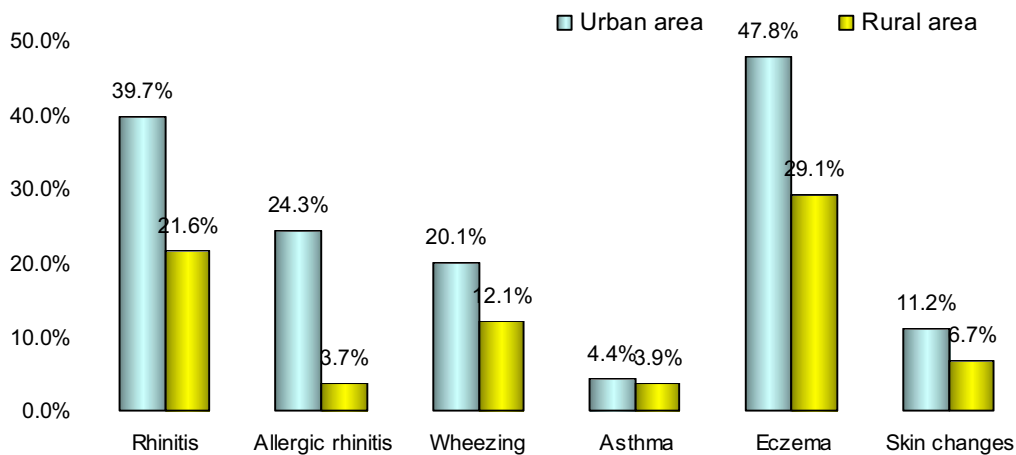


Fig. 4.1. Prevalence of rhinitis (R), allergic rhinitis (AR), asthma, wheezing, and eczema and other skin changes in children aged 6/7 years (data from the ECAP survey, n=4510).

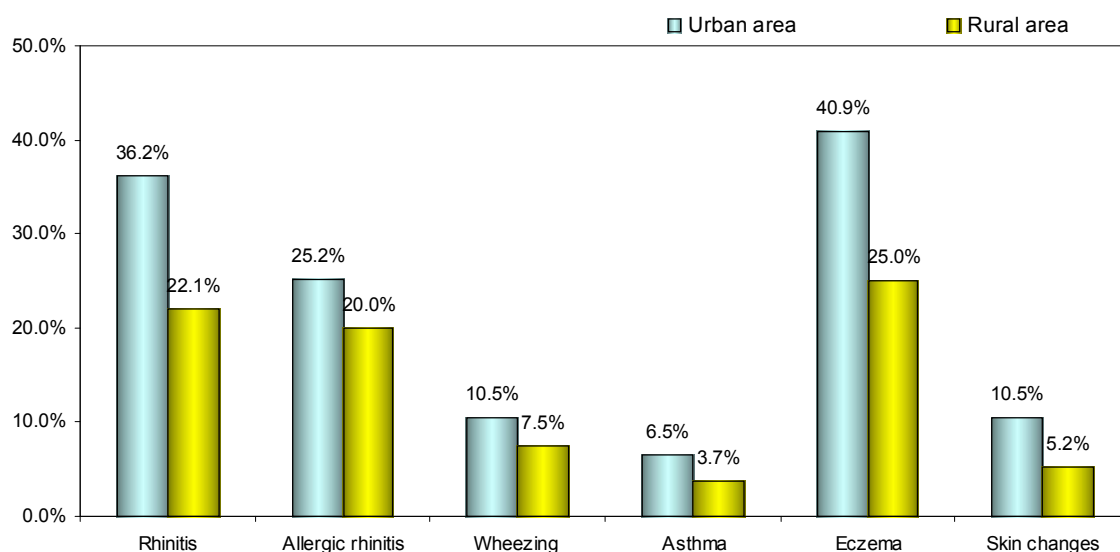


Fig. 4.2. Prevalence of rhinitis (R), allergic rhinitis (AR), asthma, wheezing, and eczema and other skin changes in children aged 13/14 years (data from the ECAP survey, n=4721).

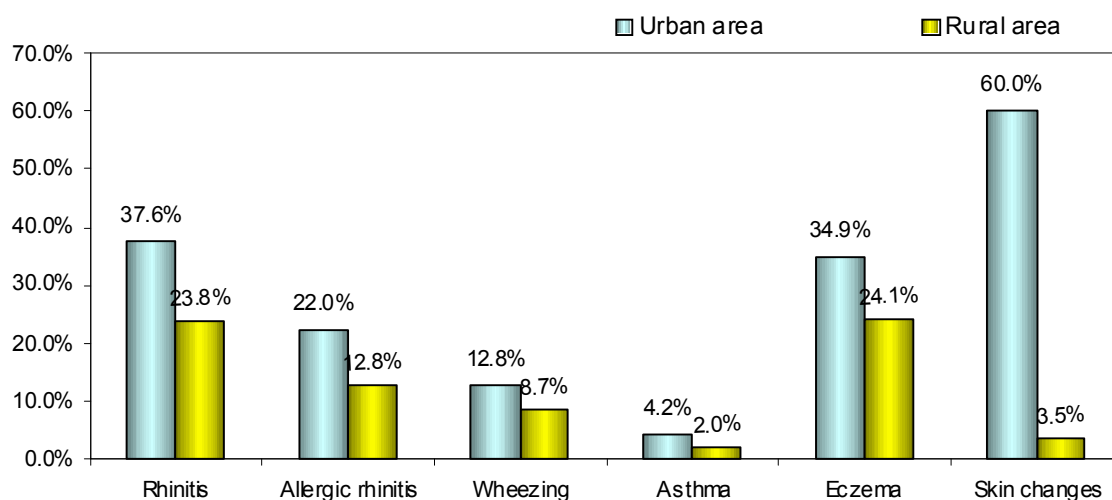


Fig. 4.3. Prevalence of rhinitis (R), allergic rhinitis (AR), asthma, wheezing, and eczema and other skin changes in adults aged 20-44 years (data from the ECAP survey, n=9386).

Over 40% of the respondents subsequently evaluated in ECAP clinics tested positive to common allergens (Fig. 4.4) and skin changes were reported by 40-45% of the respondents (Figs 4.1, 4.2, 4.3). The results also allow preliminary assessment of the impact of environmental factors on allergic disorders. The effects of allergy are detrimental to the health of children, adolescents and young working adult population. In these age groups allergy is responsible for the highest morbidity and low quality of life, with impact on education and employment.

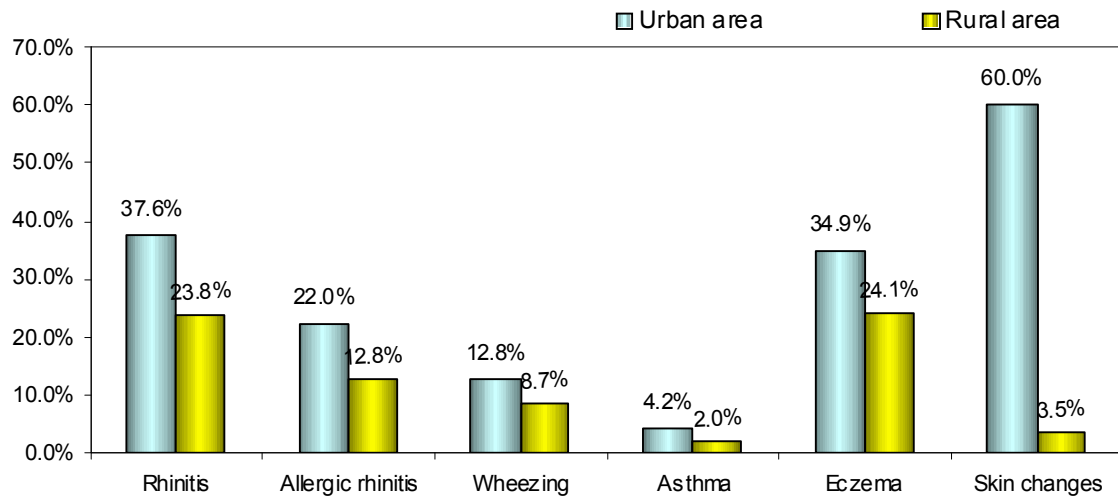
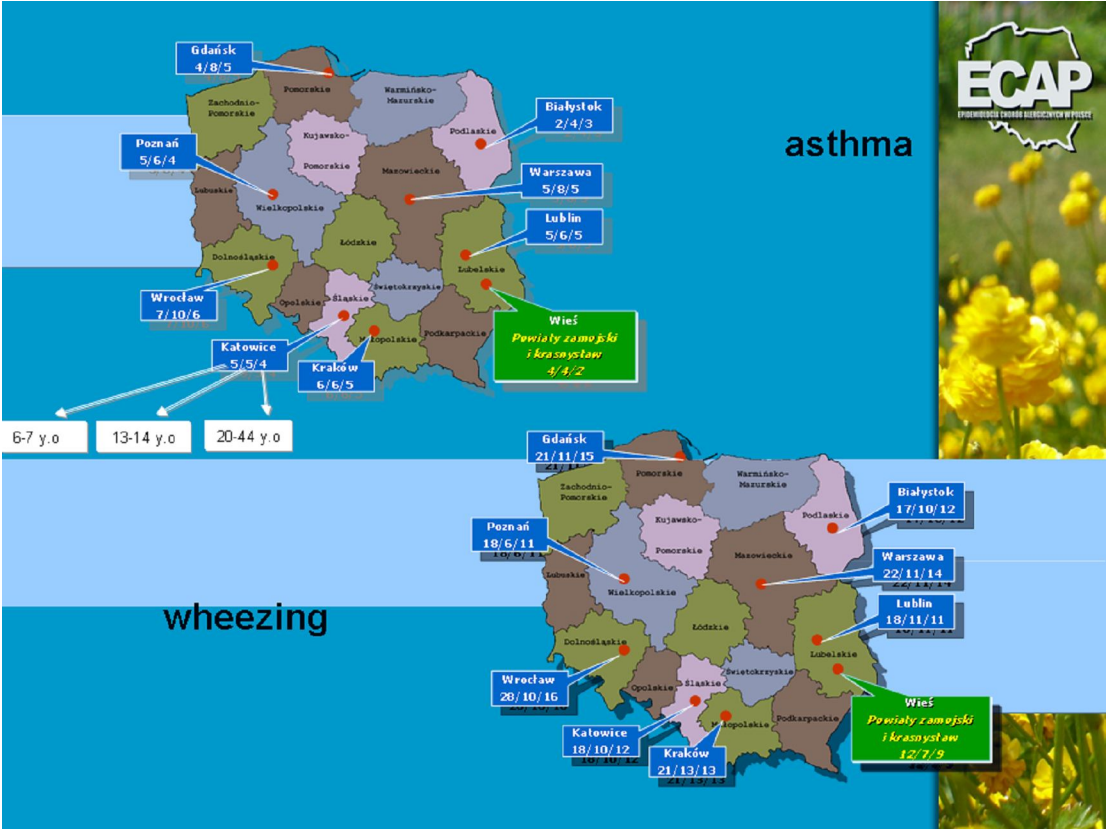
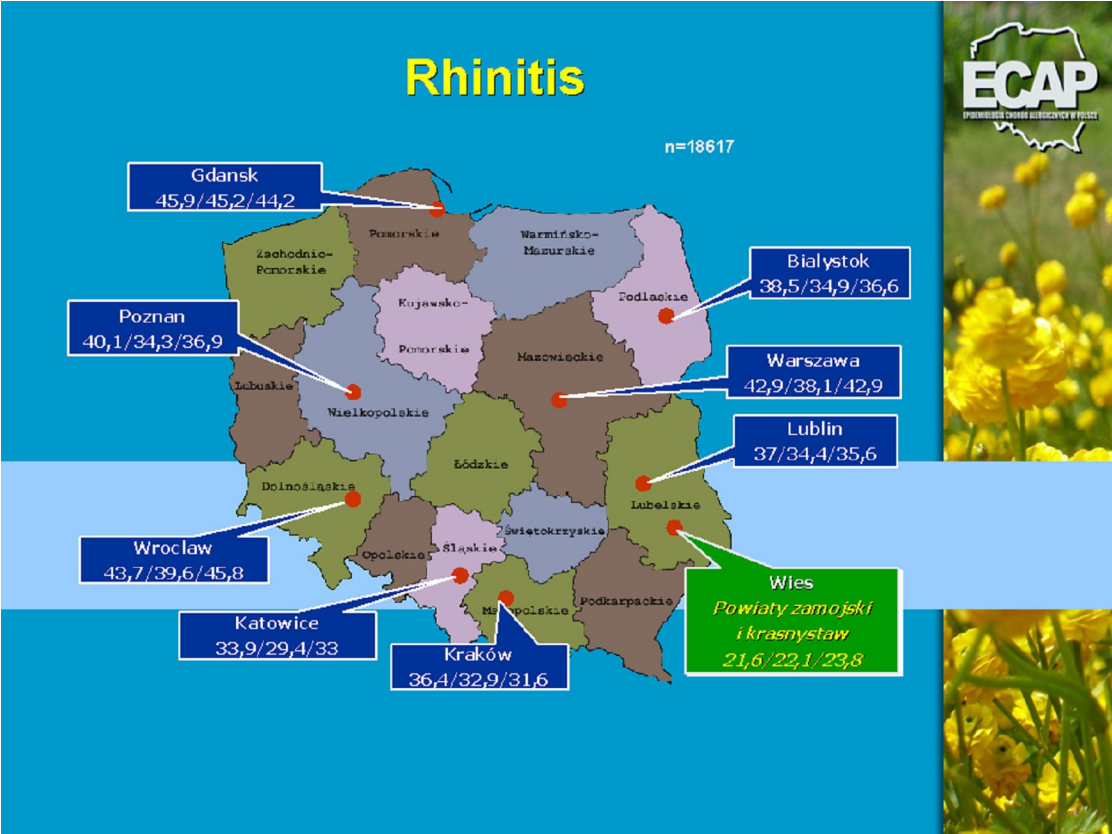


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The prevalence of Rhinitis, asthma and wheezing in different regions in Poland



Other allergic diseases

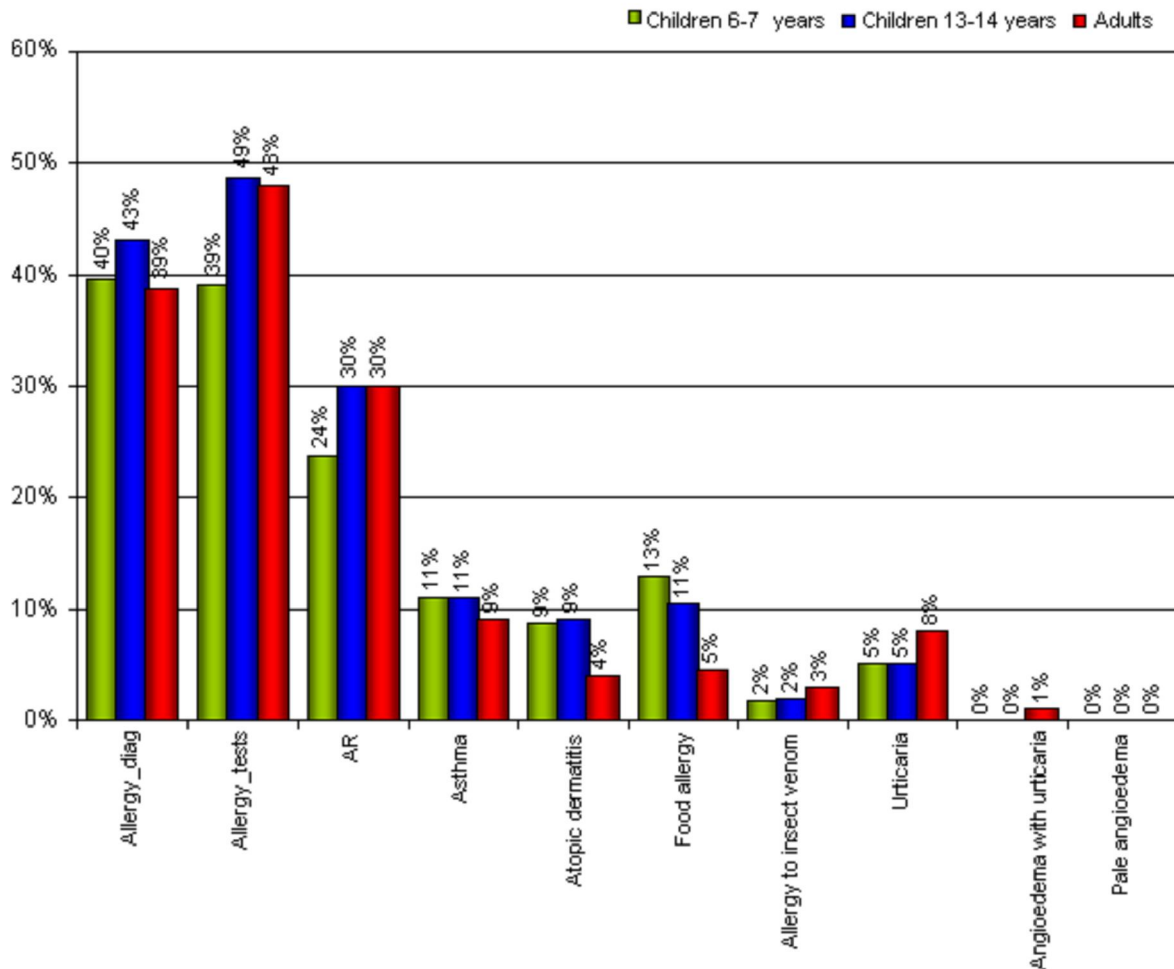


Fig. 4.4 Distribution of medical diagnoses in the ECAP survey by respondents' age (n=4783).

Allergy_diag - Percentage of subjects with diagnosed allergic disorders

Allergy_tests - Percentage of subjects with positive skin tests; AR – allergic rhinitis

Bronchial asthma had been diagnosed prior to the survey in only 19% of the respondents from metropolitan areas who reported wheezing or whistling in the chest in the questionnaire (see Fig. 4.5). Of all respondents in whom asthma was diagnosed by the ECAP physicians, in only 30% asthma had been correctly diagnosed before their participation in the survey (Fig. 4.6). This finding suggests that bronchial asthma may be underdiagnosed in even 70% of people from both large cities and rural areas.

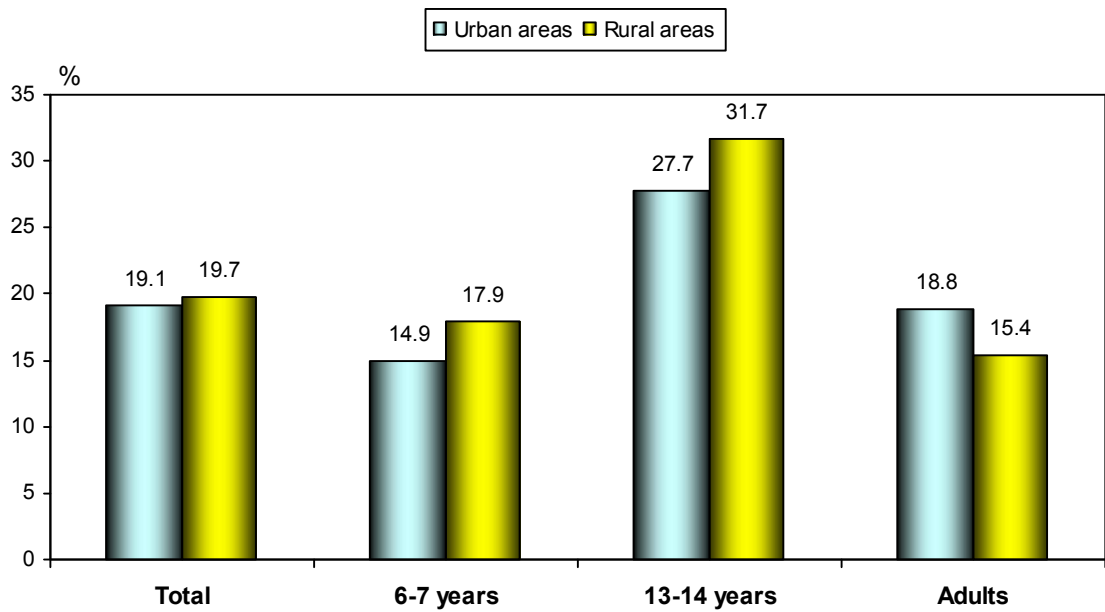


Fig. 4.5 Percentage of subjects with bronchial asthma diagnosed prior to the ECAP survey among respondents reporting wheezing or whistling in the chest, who account for 100% of subjects analysed in the diagram.

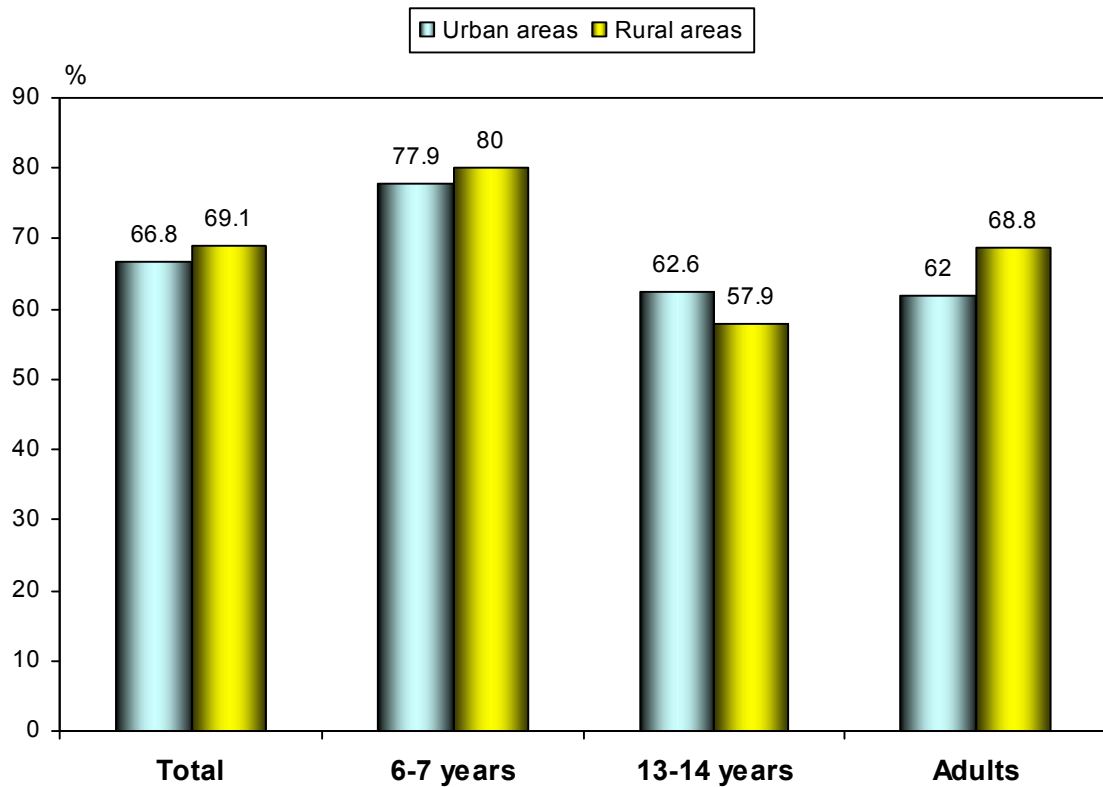


Fig. 4.6 Underdiagnosed bronchial asthma among subjects with asthma diagnosed during the ECAP evaluation.

As large percentage as 42% of all hospitalised patients had earlier diagnosed asthma and 58.5% of all patients hospitalised in the last 12 months reported wheezing. This finding suggests that in the surveyed group of 18 617 respondents lower respiratory symptoms associated with bronchial asthma were obviously the most common cause of hospital admissions.

In the list of most common disorders, asthma and wheezing come just after rhinitis. Patients with asthma diagnosed prior to their participation in the survey account for 4.5% of adults and 6.5% of adolescents from urban areas. More thorough analyses, however, suggest that this percentage might be nearly 3-fold higher considering the extent to which asthma seems to be underdiagnosed. Judging by the typical signs such as wheezing and whistling sounds, the prevalence of asthma in big cities may range from 10.5% to 20.1% and the rate may be 30% higher than in rural areas.

Rhinitis is definitely the most common symptom complex in the surveyed population. In urban areas, the average rates are nearly 40% and 36-37% in adolescents and adults respectively. The symptoms of rhinitis are more frequently (by 70%) reported in big cities compared to the rural area. The rates of diagnosed allergic rhinitis are slightly lower. It is found in 22% of adults, 25% of adolescents and 24% of children living in big cities. In the age group 20-44 there is a highly significant difference in the prevalence of nasal allergy between the rural area and big cities. The proportion of subjects with nasal allergy is twice as large in urban areas (Figs 4.1, 4.2, 4.3).

The symptoms of respiratory allergy are present for most part of the year and patients with active disease for more than 4 weeks in the year account for over 50% of all patients with allergies. The patients report obvious exacerbation of the symptoms during the summer (Fig. 4.7).

Month in which nasal problems occurred by age

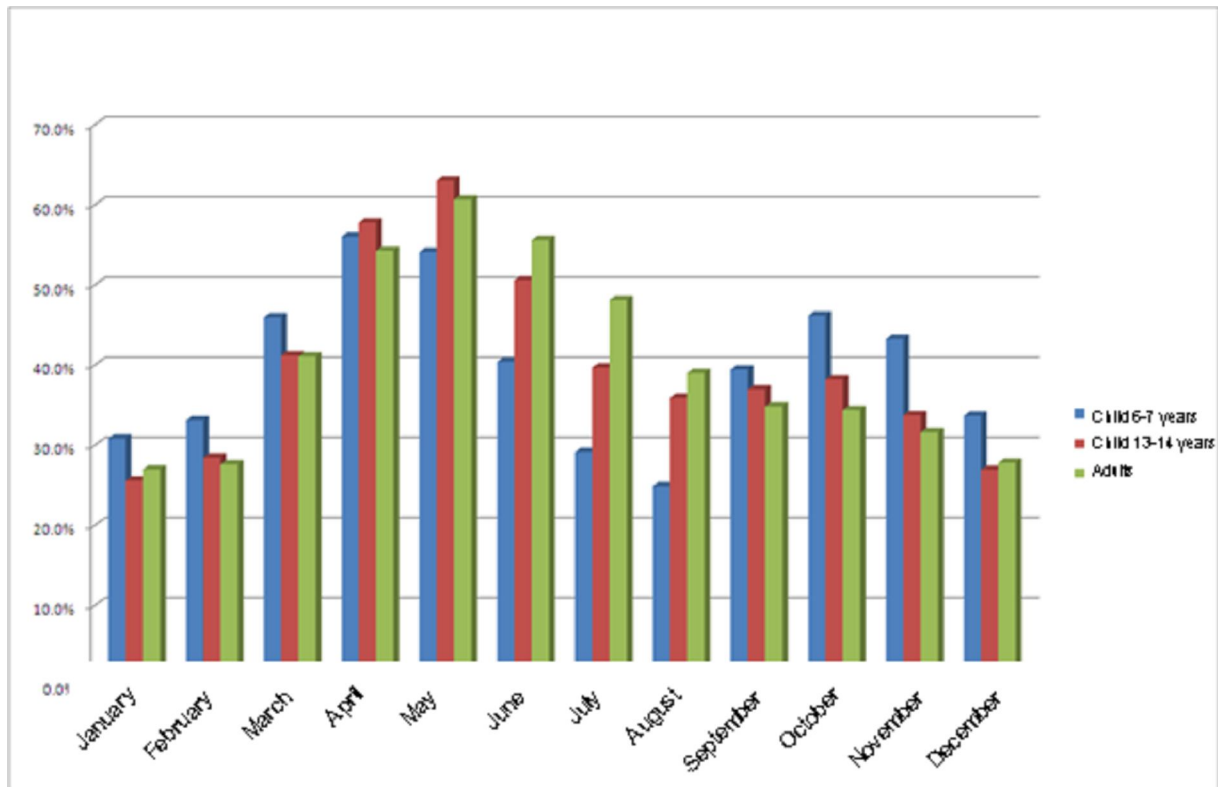


Fig. 4.7. Distribution of nasal allergy symptoms during the year.

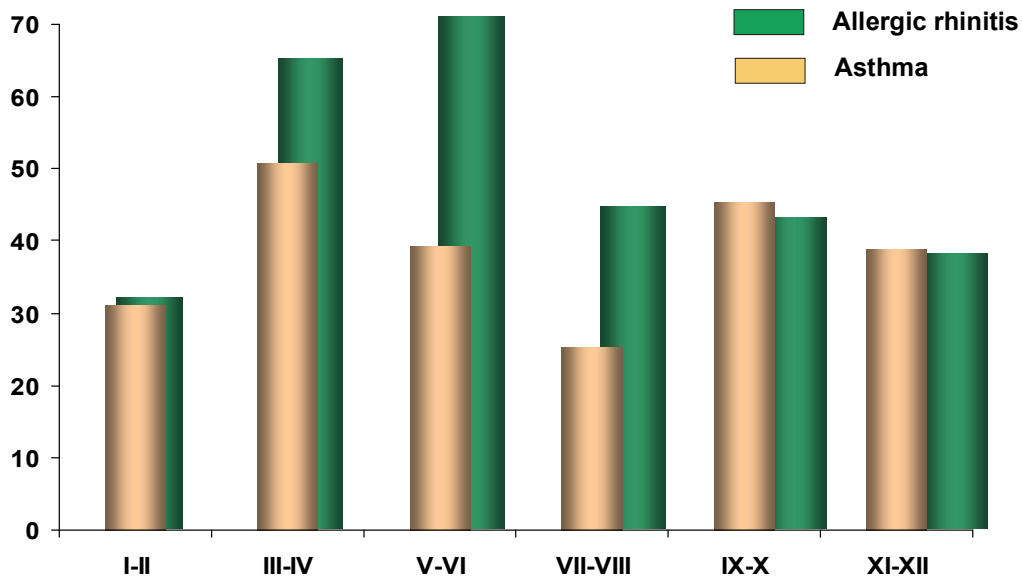


Fig. 4.8. Distribution of nasal allergy and asthma symptoms during the year.

This finding, however, is not confirmed by the results of skin tests. Both weakly positive responses (≥ 3 mm) and finding of a wheal diameter ≥ 5 mm in patients with severe allergy as well as exacerbation of the symptoms on exposure to the allergens indicate that year-round allergens are the main morbidity factors (Fig. 5.8). Still, 'silent' perennial allergy remains largely underdiagnosed. This warrants introduction of large-scale screening programmes, especially in the situation when chronic, perennial allergic disorders become increasingly more serious. Perennial rhinitis increases 8-fold the risk of bronchial asthma, which in turn is one of the most serious risk factors for the development of COPD.

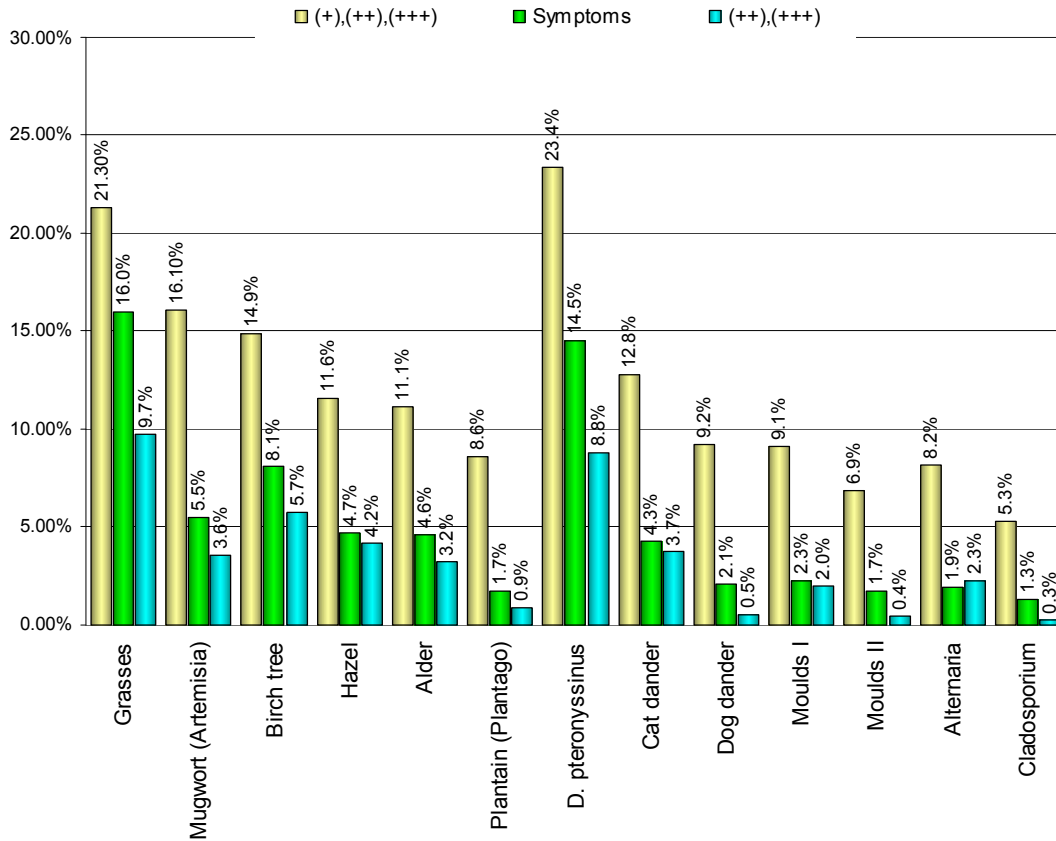
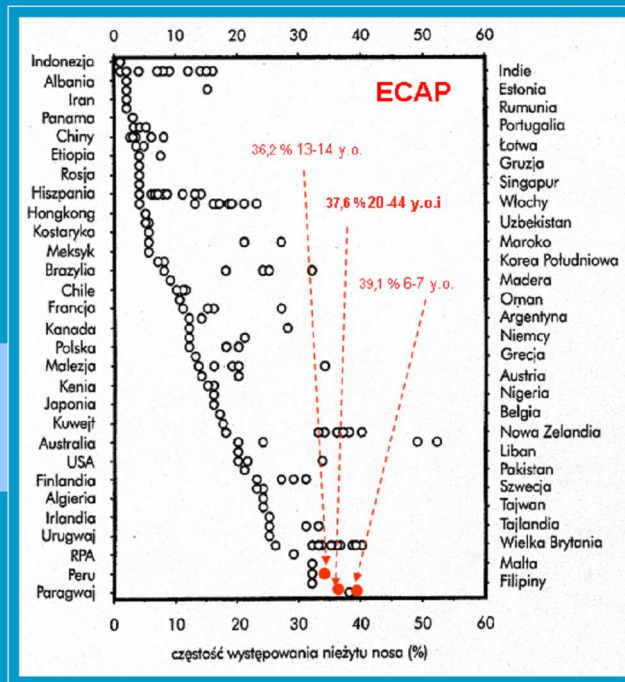


Fig. 4.9 Results of positive skin tests for common inhaled allergens in the outpatient ECAP study (n=4783).

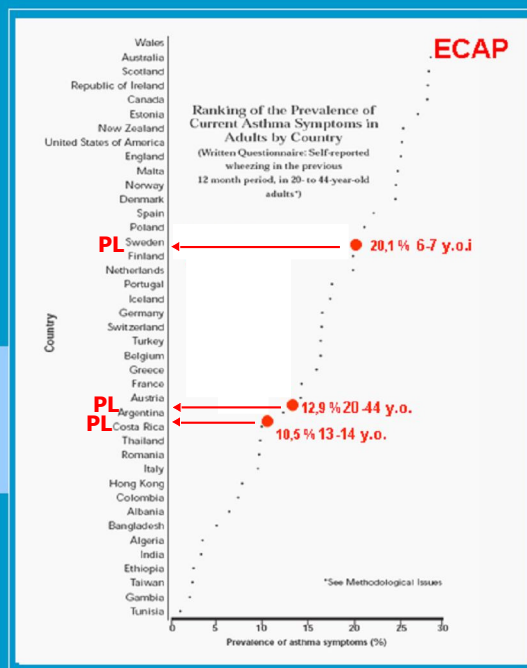
Skin changes are very frequently reported (Figs 4.1, 4.2, 4.3). The rates are twice as high in big cities compared to the rural area: 35% to 48% for eczema and 7.5 to 11% for other skin changes. However, analysis of the data, especially of the content of the questions, shows that their epidemiological value is low. Clinical evaluation of those respondents who had reported skin changes in the survey showed the actual rates of clinically significant skin changes were lower than initially reported (Fig. 4.4). Urticaria was found in 6% to 8% of the subjects and atopic dermatitis in 4% to 8%. Still it must be remembered that the population of patients with allergy is overrepresented in the medical evaluation part of the study since healthy individuals were reluctant to undergo such investigations and the actual sample was not representative. Accordingly, it may be hypothesised that in big cities the actual prevalence rates of allergic skin changes such as atopic dermatitis and urticaria are lower.

The prevalence of allergy and asthma in the world and in Poland

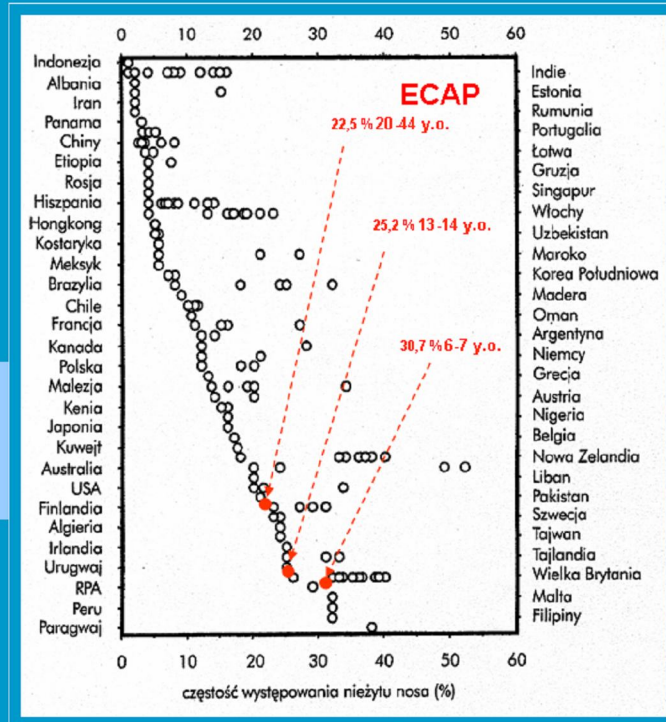
Epidemiology of Rhinitis



Epidemiology of Asthma – ISAAC study



Epidemiology of Allergic Rhinitis



Conclusion: When the overall picture of allergy and asthma is taken into consideration, including the diagnosis, treatment, monitoring and evaluation of environmental factors, it is easy to see that much remains to be done in this field. Further in-depth studies are required to develop a comprehensive programme addressed to the patients, their families and employers as well as the health-care providers.