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medication more frequently than every 2 to 3 days. Of the 67% reporting taking preventer medications, one third had called reliever medication "preventers".

Conclusion: Some aspects of asthma morbidity are improving, but issues around health literacy need to be explored to determine if they are related to poor health outcomes.

P1400**Examining asthma incidence in an Australian prospective cohort: the North West Adelaide health study**

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The North West Adelaide Health Study is a representative biomedical population cohort study of randomly selected people aged 18 years and over living in the north western region of Adelaide (n=4060). Stage 1 data were collected in 2000-2003 and Stage 2 data in 2004-2006. Less than 7% of participants were unable to be contacted in Stage 2. This longitudinal data provides an opportunity to examine the natural history of asthma in a general population sample. Participants with diagnosed asthma were defined as those who self-reported having been told by a doctor that they have asthma. Those with undiagnosed asthma did not report being told by a doctor that they had the condition, but had at least a 12% increase in FEV₁ (>200mL) post bronchodilator. Information on sociodemographic and risk factors including age, sex, highest education level, household income, smoking status and obesity was collected at the clinic appointment and via self-report questionnaires. At baseline, the prevalence of asthma was 12.0% (95% CI 11.1-13.1), with 9.4% diagnosed and 2.7% undiagnosed. Stage 2 data will be used to examine changes in the point prevalence of diagnosed and undiagnosed asthma over time, the characteristics of people whose condition worsened over time, and what can be learnt from those whose condition has not worsened. This information will provide important insight for targeting asthma prevention and management programs and interventions.

P1401**12-year follow-up of the epidemiological study for the genetics and environment of asthma (EGEA) – asthma incidence: preliminary results**

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A 12-year follow-up of the subjects examined in 1992-95 (n=2043) in 6 centers in France has been undertaken to refine the phenotypic characterization, assess the role of new factors and determine risk factors of incidence, remission and aggravation of asthma. The study combines a case-control and family study of asthmatic cases (children and adults) and included overall 37.7% with ever asthma and 15.2% with current diagnosed asthma. At the end of January 2006, 85.1% of the non deceased population answered a postal questionnaire and 59% have been re-examined, including detailed questionnaires, blood sampling, lung function tests, methacholine challenge, exhaled condensate and skin prick tests. Participation was unrelated to asthma at baseline.

Analysis of the postal questionnaire of the first 768 re-examined subjects (mean age = 45.1 years) showed that ever and current diagnosed asthma were reported by 38.7 and 20.9% respectively. Out of those who reported ever asthma at baseline, 3.4% did not report ever asthma at the follow-up. Incidence of asthma was 6.8% in the total sample, and 9.8 and 7.7% in the family and control populations respectively. Asthma incidence was higher in siblings (14.1%) and offsprings (9.6%) of asthmatic cases than in parents (6.5%) and in those initially ≤16 years than others (12.7 vs. 4.5%).

The analysis will be extended using informations from all postal questionnaires and study the role of age, gender, family characteristics and environmental risk factors on asthma incidence.

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P1402**Respiratory symptoms and risk factors in children in Manchester UK**

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The MANCAS study used a parent completed questionnaire and skin prick tests to investigate the prevalence of respiratory symptoms and risk factors in 6-11 yr

116. Asthma and allergy: prevalence, incidence and risk factors

P1399**South Australian asthma surveillance – trends to 2005**

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Body: Rationale: This study is a continuing surveillance program examining asthma prevalence, morbidity and management. The aim is to monitor changes and use these changes to identify new directions in management.

Methods: Personal interviews were conducted on 3,047 South Australian adults (age >15 years) selected randomly by Australian Bureau of Statistics methodology between September to December 2005. Demographic and asthma related information were collected.

Results: A 70.8% participation rate was achieved. The prevalence of current doctor diagnosed asthma was 12.7% (compared to 8.0% in 1990). In those with asthma, nightly waking occurred in 2.4% and waking weekly or more often in 10.3%. Ownership of written action plan was reported by 13.9% of people with asthma. Of people with asthma 14.8% lost days from work or school. Only 2.4% had a hospital admission in the last 12 months and 85.4% rated their asthma as well controlled although 25.7% of people with asthma were using their reliever

olds. 2414 questionnaire responses were received from 5086 children. 949 children participated in skin prick tests for allergy to house dust mite, cat, dog, grass and alternaria.

The prevalence of symptoms and risk factors is shown in table 1. Wheeze was more prevalent in boys (22.4% vs 17.9%, $p=0.01$). More boys were atopic (43.0% vs 29.3%, $p<0.01$).

Table 1 Prevalence of respiratory symptoms and risk factors

Wheeze*	20.3% (490/2408)
Night cough*	33.5% (799/2387)
Asthma attack*	9.3% (220/2377)
Asthma medication	16.2% (388/2400)
Hay fever/eczema	38.8% (918/2369)
Family history asthma	59.6% (1415/2374)
Atopy (≥ 1 positive skin test)	37.1% (352/949)

* 12 month prevalence

The prevalence of each allergy for children with a positive skin prick test is shown in table 2. Grass allergy was higher in boys (59.3% vs 46.7%, $p=0.02$).

Table 2 Prevalence of atopy by allergen

House dust mite	67.6% (238/352)
Grass	55.0% (193/351)
Cat	32.7% (115/352)
Dog	21.4% (75/351)
Alternaria	1.1% (4/351)

Lower prevalence of wheeze (18.4%) and cough (28.3%) was reported in 6-7 yr olds in Sunderland (1) and of atopy (19.6%) in 4 yr olds on the Isle of Wight (2). Age and geographical differences might account for this.

MANCAS provides data for comparison of respiratory symptoms and risk factors in children in a similar age group.

(1) Asher et al. 1998, Worldwide variations in the prevalence of asthma symptoms (ISAAC), *ERJ*, 12: 2: 315-335

(2) Arshad et al. 2001, Sensitization to common allergens and its association with allergic disorders at age 4 years *Pediatrics*, 108: 2: E33.

P1403

Oral contraception, body mass index and asthma. A cross-sectional survey

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Background: We wanted to investigate the association of oral contraceptives (OC) with asthma in a population of women in fertile age, focusing on possible interaction with body mass index (BMI).

Methods: A postal questionnaire was sent to population-based samples in Denmark, Estonia, Iceland, Norway and Sweden in 1999-2001, and 8588 women aged 25-54 years responded (77%). Pregnant women, women using HRT, and women >45 years were excluded. Analyses included 5791 women aged 45 or younger of which 961 (17%) used OC. Stratified analyses by BMI were performed.

Results: OC was associated with increased risk for diagnosed asthma (OR= 1.42 [95% CI=1.09-1.86]) and ≥ 3 asthma symptoms (1.29 [1.05-1.58]). These associations were only found among normal weight (diagnosed asthma: 1.45 [1.02-2.05]; asthma symptoms: 1.45 [1.11-1.89]) and overweight women (diagnosed asthma: 1.91 [1.20-3.02]; asthma symptoms: 1.28 [0.88-1.87]), but not among lean women (diagnosed asthma: 0.41 [0.12-1.40]; asthma symptoms: 0.81 [0.43-1.53]). There was a significant interaction between BMI and OC on risk for diagnosed asthma ($p_{\text{interaction}} < 0.05$).

Conclusions: Normal weight and overweight women taking OC had slightly more asthma. OC and BMI appear to interact in effect on asthma, suggesting interplay between the influences of sex hormones and metabolic situation on the airways.

P1404

Relationships between respiratory and gastro-oesophageal symptoms: a cross-sectional Italian study

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We performed a cross-sectional survey on 572 socially active subjects (60% males, age range 21-45 yrs) recruited via local Occupational Medicine Departments. Subjects filled-out a modified version of the CNR-ECRHS questionnaires. Data on respiratory and gastro-oesophageal symptoms (heartburn, belch, and regurgitation), as well as on the prevalence of concurrent respiratory disorders were collected. The presence of cough, phlegm, wheezing, dyspnoea and rhino-sinusitis were included as dependent variables in logistic regression models with age, education, residence, health status, smoking habit, and gastro-oesophageal symptoms as independent variables. The prevalence of concurrent lower-airway diseases such

as asthma and COPD was higher ($p=0.01$) in coughers of both sexes. Symptoms of rhino-sinusitis were more likely to occur in coughers than in non-coughers (30.15% vs 17.7% in males, $p=0.05$; 36.2% vs 17.8%, $p=0.03$ in females). The prevalence of gastro-oesophageal symptoms in coughers (33.0%) and non-coughers (27.6%) was similar. Gastro-oesophageal symptoms affect phlegm [OR (95%CI)] [1.9 (1.2-3.2)], wheezing [1.8 (1.1-3.1)], dyspnoea [2.66 (1.7-4.1)], chest tightness [2.0 (1.3-3.4)] and rhino-sinusitis [2.6 (1.6-4.1)], but not cough. In conclusion upper digestive symptoms seem to be a risk factor for the presence of respiratory symptoms. More investigations are required to elucidate the relationships between cough and symptoms of gastro-oesophageal reflux.

P1405

Childhood asthma and fruit consumption in South London

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Background: Studies in adults have suggested that eating apples may protect against asthma but epidemiological evidence in children is lacking. We investigated whether wheezing illness is less common in children who consume more apples and other fruits.

Method: The authors carried out a population based cross-sectional study of primary school children aged 5-10 years from 36 primary schools in Greenwich, south London. Complete information about asthma symptoms and fruit consumption was obtained by questionnaire from 2640 parents in 2005.

Results: After controlling for potential confounding factors, eating bananas - one or more times daily (compared to eating less than once a month) was negatively associated with current wheeze, odds ratio 0.66 (95% CI: 0.44, 1.00); $p=0.05$, and with ever wheeze: OR 0.69 (0.50, 0.95); $p=0.02$, but not with ever asthma: OR 0.80 (0.56, 1.14); $p=0.22$. Drinking apple juice made from concentrate one or more times a day (compared to drinking less than once a month) was also negatively associated with current wheeze (OR 0.53 (0.34, 0.83); $p=0.006$), weakly associated with ever wheeze (OR 0.74 (-0.54, 1.02); $p=0.07$), but not associated with ever asthma (OR 0.90 (0.63, 1.28); $p=0.55$). However consumption of apples, miscellaneous fruits and orange juice was not significantly associated with asthma symptoms.

Conclusion: We have found some evidence to suggest that a higher consumption of apple juice from concentrate, and bananas, may protect against wheezing illness in children. However, we were unable to show a link between eating fresh apples or miscellaneous fruits and asthma symptoms in this children population.

P1406

Asthma and wheeze in adolescence in relation to active and passive tobacco smoke

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Background: Children whose parents smoke, in particular the mother, have an increased risk for developing asthma and wheeze. The effects of smoking on respiratory health in adolescence are poorly known.

Aim: To study the risk for asthma and wheeze in adolescence in relation to passive and active smoking.

Methods: The study is a part of a longitudinal paediatric study about asthma and allergy in a cohort of 3525 school children in northern Sweden ongoing since 1996 when the children were 7/8 y old. The ISAAC-questionnaire with additional questions about asthma and possible risk factors has been completed annually. Questions regarding tobacco use among the children were included from age 12/13 y.

Results: At age 14/15 y, 12% reported wheeze, 21% any wheeze last 12 months, 11% physician-diagnosed asthma, 6% were smokers, and 28% had a smoking mother. Both asthma (18%) and wheeze (25%) were significantly increased among smoking teenagers. Of those who both were smokers and had a smoking mother, 19% had asthma and 28% reported wheeze. Being a smoker was strongly correlated to living in a smoking family. Of smoking teen-agers, 68% had a smoking mother. **Conclusion:** Both active and passive smoking is related to wheeze and asthma in adolescents. Smoking is related to respiratory symptoms already after a few years of smoking.

P1407

Analysis of risk factors of bronchial hyperresponsiveness in Estonia

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Objective: To assess the prevalence and risk factors for bronchial hyperresponsiveness (BHR) in a population sample aged 17-69y in Estonia.

Design: Adult population-based cross-sectional study (FinEsS) with 1346 randomly selected participants in three areas of Estonia. The methods included methacholine test, structured interview and skin prick tests (SPT) to 15 aeroaller-

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gens. The current analysis was based on 308 subjects from whom these data were received. SPT results were validated by analysis of specific IgE from a subsample. **Results:** Prevalence of BHR using cut-off points 1.0 and 2.0 mg/ml was 17.9% and 32.8%. The prevalence of SPT positivity was 40.3%, while in subjects with BHR ≤ 1 mg/ml it was 58.2% ($p < 0.003$). Allergic sensitisation defined as ≥ 1 positive SPT was significantly related with BHR ($p = 0.01$). Subjects with positive SPT to house dust mites, cat, dog, and cockroach were significantly more likely to have BHR compared with negative SPT for these allergens (all with $p < 0.02$). Subjects who had had furred animals in the home before age 5 y had BHR ≤ 1 mg/ml significantly more often than subjects who not had had furred animals in the home before age 5y ($p < 0.046$). Current smoking, severe respiratory infection before age 5, and having ≥ 2 siblings yielded no significance. Positive SPT correlated well with specific IgE.

Conclusion: Allergic sensitisation against several aeroallergens was significantly related with BHR as was having had furred animals in the homes before age 5.

P1408**High prevalence of allergen-specific IgE antibodies against storage mites in Danes**

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Background: The prevalence of sensitisation to storage mites (*Lepidoglyphus destructor* and *Acarus siro*) in rural Scandinavian populations have been measured between 1.1% and 6.8%. We have examined the sensitisation to storage mites in the Danish general population.

Methods: In a cross sectional study of Risk factors for Asthma in Adults (ECRHS protocol) the distribution of allergen-specific IgE antibodies was studied. A screening questionnaire was sent to a random sample of 2000 subjects aged 20-44. 20 percent of the responders and all with current asthma were invited to participate in a health examination. In 214 subjects we performed tests for allergen-specific IgE antibodies against storage mites, latex and allergens in Allergy Screen assay[®] (Bayer).

Results: Table 1 summarize the results. House dust mites, grass, birch, cat, dog and *Alternaria alternata* were significantly associated to asthma. ($p < 0.03$)

Tabel 1

Allergen	Asthma	Non-asthma	p-values
Acarus siro	14/98	11/116	0.28
Lepidoglyphus destructor	25/98	23/116	0.32
D. pteronyssimus	22/98	13/116	0.03 *
D. farinae	26/98	13/116	0.004 *
Grass	30/98	18/116	0.008 *
Birch	22/98	11/116	0.009 *
Mugwort	11/98	9/116	0.36
Cat	16/98	8/116	0.03 *
Horse	7/98	3/116	0.12
Dog	10/98	2/116	0.007 *
Alternaria	13/98	3/116	0.003 *
Cladosporium	3/98	0/116	0.06
Latex	1/98	2/115	0.66

Discussion: High sensitisation rate for storage mites were found both in respiratory healthy and in asthmatic subjects. Although this sensitisation was not related to asthma it is suggested the allergens should be included in allergy-screening in Denmark, and possibly in areas with equal climate.

P1409**Asthma and allergic diseases in schoolchildren: two cross-sectional studies 10 years apart in Edirne**

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A questionnaire was distributed to and filled by parents of schoolchildren aged 7-12 in Edirne in 1994 and 2004, in the primary schools (in 1994 18 urban and 24 rural

	Rural			Urban		
	1994%	2004%	p	1994%	2004%	P
Cumulative						
Asthma	15.6	21.0	0.0002	16.7	26.2	<0.0001
Wheezing	19.2	22.3	0.04	18.7	26.7	<0.0001
Allergic rhinitis	11.5	9.4	> 0.05	12.6	13.2	> 0.05
Eczema	2.5	2.0	> 0.05	2.1	2.3	> 0.05
Current						
Asthma	5.2	8.6	0.0002	5.8	12.2	<0.0001
Wheezing	5.2	10.7	<0.0001	6	14.5	<0.0001
Allergic rhinitis	3.9	5.1	> 0.05	4.7	7.8	<0.0001
Eczema	0.8	1.3	> 0.05	0.9	1.3	> 0.05

schools, n: 5412; in 2004 34 urban and 22 rural schools, n: 5735). Participation rate in 1994 and 2004 were 84% and 82.5%, respectively. Age distribution, living in the urban area (1994: 75.8%, 2004: 70.1%, $p < 0.0001$), pet holding (1994: 39.6%, 2004: 29.6%, $p < 0.0001$), passive smoking (1994: 74.7%, 2004: 60.0%, $p < 0.0001$), family atopy (1994: 12.7%, 2004: 18.2%, $p < 0.0001$), breast feeding (1994: 96.8%, 2004: 91.4%, $p < 0.0001$) were significantly different between the two surveys. Comparisons between 2004 and 1994 surveys in urban and rural schools revealed significant increases in the cumulative asthma and wheezing; and current asthma, wheezing and allergic rhinitis (Table).

Increased prevalence of asthma and allergic diseases could be due to urbanization and the parallel increase in the western life style.

P1410**Asthma and associated factors: a cross-sectional study of schoolchildren in Edirne**

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A questionnaire was distributed and filled by the parents of schoolchildren aged 6 to 16 years in Edirne primary schools (34 urban schools, 22 rural schools) in 2004 to investigate asthma and allergic diseases. Information was collected about asthma and allergic diseases and current and past exposures and dietary habits. Participation rate was 82.5% (5808/7147). Prevalence % of current wheeze was 12.6 in urban schools (boys: 10.5, girls: 8.7) and 9.6 in rural schools (boys: 12.9, girls: 12.2). Multiple logistic regression model found OR and (95% CI)'s of age (/1 year increase): 0.92 (0.87-0.98), maternal smoking: 1.42 (1.18-1.71), nasal polyp: 2.31 (1.79-2.98), familial atopy: 2.12 (1.77-2.55), previous respiratory infection: 3.30 (2.54-4.27), health insurance: 0.78 (0.66-0.93), ingestion of butter in the breakfast: 1.36 (1.10-1.67) and consumption of milk: (reference: not regular consumption, at least 1 glass/day: 0.54, 0.39-0.74). Urban rural comparison, which was significant in the univariate analysis, did not gain significance in the multiple logistic regression analysis. Our study supports the findings of previous investigations, which have demonstrated familial atopy and passive smoking as the strong risk factors for asthma symptoms. Further investigations would help to confirm the association found between dietary habits and asthma, which would have impact on the preventive measures.

P1411**Time trend of asthma prevalence: ecological analysis of the investigations in schoolchildren in Turkey**

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Increased prevalence of asthma has been reported from different countries in the last 20-30 years. Investigations with standard methodology were conducted for the comparison of findings in different populations. Findings of 14 studies published in Journals in English and of one study prepared for publication, in a total of 17 study populations were investigated to assess the time trend of asthma prevalence in schoolchildren (6-14 years age) in Turkey. Since studies used different definitions of asthma, comparisons were made for wheeze. Prevalence % of cumulative (ever) and current (in the last 12 months) wheeze as median and (range) were 19.1 (8.4-26.2) and 10.7 (4.7-14.7), respectively. Proportion of current wheeze (% of current wheeze/% of cumulative wheeze) was calculated as 51.8% (27.1%-71.1%). Comparison of the findings in the period of 1992-1996 and 1997-2004 are shown in the Table.

	Investigations (1992-1996) n: 9*	Investigations (1997-2004) n: 8*	Total (1992-2004) n: 17*	P
Size	2334 (1036-3792)	2593.5 (621-4345)	2334 (621-4345)	>0.10
Average age, yr	9.3 (8.6-10.6)	9.2 (8.5-10.9)	9.2 (8.5-10.9)	>0.10
Boy %	49.5 (46.0-51.8)	49.8 (48.1-58.3)	49.6 (46.0-58.3)	>0.10
Cumulative wheeze %	15.1 (8.4-26.0)	22.3 (14.8-26.2)	19.1 (8.4-26.2)	<0.10
Current wheeze %	6.6 (4.7-11.9)	13.3 (6.4-14.7)	10.7 (4.7-14.7)	0.009
Current wheeze proportion %	39.2 (27.1-54.3)	55.3 (43.2-71.1)	51.8 (27.1-71.1)	<0.05

*Median and (range) of the findings

Investigation of the increasing trend in current wheeze in the last years would provide important information for asthma epidemiology.

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P1412**The prevalence and severity of asthma symptoms in school-age children in the city of Manaus - Amazon**

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Background: Asthma is considered the most common chronic childhood disease. However, there have been few studies on the prevalence of asthma in Brazil.

Objective: To assess the prevalence and severity of asthma symptoms in school-age children and adolescents living in the city of Manaus, located in the state of Amazon, North region of Brazil.

Method: Cross-sectional transversal study using the International Study of Asthma and Allergies in Childhood (ISAAC) questionnaire. The sample comprised students of 6, 7, 13 and 14 years of age.

Results: One group of 3011 students between the ages of 6 and 7 and another composed of 3009 students between the ages of 13 and 14 were evaluated. The prevalence of wheezing within the last 12 months in the younger children was 24.5%, vs. 17.9% among the adolescents ($p < 0.0001$). There was a predominance of males in the 6-7 age group (26.4% vs. 22.7%; $p = 0.0001$) and of females in the 13-14 age group (20.3% vs. 15.6%; $p < 0.0001$). The proportion of previously diagnosed cases of asthma was similar (approximately 20%) for both age brackets. Wheezing upon physical exertion was more prevalent among the adolescents (18.9% vs. 19.8%; $p < 0.0001$). Symptom severity was higher among younger male (severe asthma: 7.1% vs. 6.2%; $p = 0.0429$). **CONCLUSION:** Asthma prevalence in Manaus is high, as it is in other Brazilian and Latin American cities. Values are higher in the 6-7 age group, in which symptoms were seen predominantly in males. Among the adolescents, the prevalence and severity of symptoms were higher in females, a recent observation that seems to be a new epidemiological trend of asthma.

P1413**Prevalence of asthma and chronic respiratory illnesses in 4953 urban slum children from Pune City, India**

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By the year 2025, six out of ten children will be living in urban slums. Poor living conditions in slums and high levels of indoor air pollution may contribute to increased respiratory morbidity in children. The aim of this study was to investigate the respiratory health status of children dwelling in the slums of Pune city in India. Three trained local health workers from the slum community, who were trained to administer a respiratory health questionnaire, interviewed parents of 3201 < 12 years old and 1752 12-18 years old children. The study monitors checked the quality control periodically.

Results: Overall prevalence of asthma in children aged 0-6 years, 7-12 years and 12-18 years was 5.05%, 5.6% and 5.07% respectively, while prevalence of chronic respiratory infections was 4.5%, 5.3% and 5.2% respectively. Chronic cough was present in 24.8% of the children.

Conclusions The prevalence of asthma and chronic respiratory infections, in the slum children and adolescent, in this study is relatively higher than that reported in earlier studies from India. Polluted city air compounded with crowded and unventilated dwellings contributes to high prevalence of respiratory tract infections and asthma in slum children.

P1414**Longitudinal study of risk factors allergic diseases in children (Moscow study)**

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The aim of our study was to understand the prognostic value of risk factors (RF) such as low quality of housing requirements (LQH), allergic reactions to food (FA) and parents smoking (PS) for respiratory and skin symptoms in children.

The methods: The study has included 1783 children 6-7 years old in 1998 (1) and 1040 children 11-12 years old in 2002 (2). We used ISAAC questionnaire with additional questions about RF of allergic diseases. The analysis of data was performed by means of the STATISTICA (1998) and EPI-5 (ATLANTA-WHO, 1995).

The results: Among children without RF no difference has found in the prevalence of wheezing in the chest (W12) and itchy rash (dermatitis) (D12) in the last 12 months: 8.4% (1) and 11.4% (2); 3.3% (1) and 3.8% (2) accordingly. The prevalence of rhinitis without a cold or the flu in the past 12 months (R12) has increased from 10.8% (1) to 27.0% (2) (OR=3.06; 95%CI 1.99-4.71; $p < 0.001$). In group with LQH the prevalence of W12 was 13.7% (1) and 15.4% (2), R12 has increased from 15.3% (1) to 29.7% (2) (OR=2.35; 95%CI 1.66-3.33; $p < 0.001$) and D12 from 4.3% (1) to 7.5% (2) (OR=1.79; 95%CI 0.96-3.34; $p < 0.047$). In group with FA the prevalence of W12 was 22.4% (1) and 24.0% (2), R12 has increased from 29.4% (1) to 49.6% (2) (OR=2.36; 95%CI 1.96-2.85; $p < 0.001$) and D12 from 28.8% (1) to 62.0% (2) (OR=4.03; 95%CI 2.38-6.82; $p < 0.001$). The combination of LQH and PS has lead to increasing the prevalence of R12

(OR=3.29; 95%CI 1.86-5.82; $p < 0.001$) and D12 (OR=3.64; 95%CI 1.20-11.20; $p < 0.008$) so as FA and PS: OR R12=4.91 (95%CI 1.29-19.25; $p < 0.001$) and OR D12=5.73 (95%CI 1.63-20.8; $p < 0.001$).

Conclusions: LQH, FA and PS were important RF for R12 and D12 and had prognostic value.

P1415**Dynamics of epidemiology of bronchial asthma in children in the city of Kirov**

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Epidemiological investigations of bronchial asthma (BA) in children were performed in many regions of Russia. However, there were very few studies that focused on dynamics of BA epidemiology. The recent studies showed that parameters of BA morbidity according to the data of patients' primary visits to outpatient health institutions are not reliable. The purpose of the study was to compare BA spread in children of the city of Kirov according to the International Study of Asthma and Allergies in Childhood program between 1999 and 2004. 5,705 Kirov children were interviewed in 1999. 3,506 Kirov children were questioned in 2004. 509 children with asthma-like symptoms (8.9%) were selected in 1999. 254 children with asthma-like symptoms (7.2%) were selected in 2004. In their questionnaires they marked that they had the above symptoms for 12 months. The above children were purposely selected for clinical functional studies. The epidemiological monitoring showed that there was no increase of BA spread in school children aged 7-8 and 13-14 years. The results of the dynamic monitoring showed insufficiency in diagnosis of mild forms of BA. In addition to the above, in 2004 there was a reliable decrease of bronchospasms upon physical exertion, night cough spells in 13-14 year children and decrease of sleep disturbances due to whistling breathing in 7-8 and 13-14 year children. The findings based on international protocols allow regional health departments to develop strategy of medical and social support of the above group of patients.

P1416**PARFAIT (Prevalence and risk factors of allergies in Turkey) study: results of adults**

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The PARFAIT study was planned to evaluate prevalence and risk factors of allergic diseases in Turkey. This analysis used data from parents of 25843 primary school children. The current prevalences of asthma, wheezing, allergic rhinitis and eczema were 9.0%, 13.1%, 18.7% and 9.6% for women, 7.1%, 11.9%, 14.0% and 8.2% for men respectively. Increased age (OR=1.25, 95% CI= 1.14-1.36), family history (OR=3.00, 95% CI= 2.70-3.34), other allergic disease in index case (OR=7.80, 95% CI= 6.98-8.79), use of wood and biomass as heating material (OR=1.07, 95% CI= 1.03-1.26) were associated risk factors for asthma in mothers. Current wheezing was associated with increased age (OR=1.19, 95% CI= 1.10-1.28), family history (OR=4.71, 95% CI= 4.25-5.22), other allergic disease (OR=5.80, 95% CI= 5.29-6.37), use of wood and biomass (OR=1.05, 95% CI= 1.01-1.09), dampness at home (OR=1.46, 95% CI= 1.30-1.65), personal smoking (OR=2.15, 95% CI= 1.94-2.40) and smoking at home (OR=1.13, 95% CI= 1.03-1.24). Risk factors for allergic rhinitis (AR) were family history (OR=8.44, 95% CI= 7.71-9.24), other allergic disease (OR=3.57, 95% CI= 3.28-3.88) and dampness at home (OR=1.16, 95% CI= 1.03-1.29). Risk factors for eczema were; age (OR=1.26, 95% CI= 1.16-1.38), family history (OR=9.55, 95% CI= 8.51-10.73), other allergic disease (OR=3.19, 95% CI= 2.87-3.55), use of wood and biomass as cooking material (OR=1.09, 95% CI= 1.02-1.18), living in rural area (OR=1.27, 95% CI= 1.11-1.45) and dampness at home (OR=1.44, 95% CI= 1.26-1.64). Risk factors in men were similar to women. Although genetic susceptibility is strongly associated, country and population based factors may contribute to development of allergic diseases.

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P1417**Prevalence and risk factors of allergies in Turkey (PARFAIT): a multicentric-cross sectional study in schoolchildren**

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Aim: The PARFAIT (Prevalence And Risk Factors of Allergies in Turkey) study was planned to evaluate prevalence and risk factors of asthma and allergic diseases and also to find out which geographical variables and /or climatic conditions play a role determining the prevalence of allergic diseases in Turkish school children.

Method: Study was planned as cross sectional-questionnaire based.

Results: 25843 questionnaires from 14 centers were appropriate for analysis. Parental history of allergy having an atopic sibling and other atopic disease in index case were significant risk factors for all allergic diseases. Breast feeding decreased the risk of current asthma (OR=0.92, 0.86-0.99 CI) and wheezing (OR=0.93, 0.87-0.99 CI) but not allergic rhinitis and eczema. Recent pulmonary infection was an important risk factor for the occurrence of allergic diseases especially for asthma which was increased 4.53 fold. Children exposed to household smoke were significantly at higher risk of asthma, wheezing and allergic rhinitis (OR=1.20, 1.08-1.33 CI, OR=1.21, 1.09-1.34 CI and OR=1.32, 1.21-1.43 CI, respectively). All allergic diseases were increased in those children living in areas which have altitude of below 1000 meters and mean yearly atmospheric pressure below 1000.

Conclusion: The study have suggested that household and country-specific environmental factors are associated with asthma, wheezing, allergic rhinitis and eczema risk during childhood in Turkey.

*Names from 3 to15 were written by alphabetical order.

P1418**Epidemiology of allergic rhinitis in population of school age children**

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Purpose of the work is to study epidemiology (prevalence) of allergic rhinitis in the population of school-age children in Tbilisi. Researches were conducted on the basis of questioning of random and representative groups of school age children, by means of cross-section method of epidemiological research. At the first stage there were questioned 3000 children of 6-17 age and at the second stage clinical-allergic examination was conducted with 256 randomized patients with the signs of rhinitis. In the population of Tbilisi children prevalence of allergic rhinitis was 13.2%, among which 98% were diagnosed primarily. Small number of cases was accompanied with conjunctivitis (2.4%).

Frequency of spreading of the signs of allergic rhinitis was sure higher in boys, compared with girls. In the results of in vivo study of the allergens there prevailed sensitization caused by domestic dust - 67.2% of cases and in 25% of cases it was caused by epidermal allergens of the cats and dogs (there were used prick-tests produced by ALK scherax). Studies revealed high frequency of delayed diagnostics, light and medium condition, prevalence of intermissive allergic rhinitis.