Newsletter - January 1996

I NTERNATIONAL
S TUDY OF
A STHMA AND
A LLERGIES IN
C HILDHOOD

Thank you for your positive responses to the November Newsletter. I would welcome items from anyone for inclusion in the next newsletter.

Innes Asher
Auckland

PS Please let me know if you do NOT want to receive the ISAAC newsletter.

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(for Innes Asher)

The European Respiratory Society Annual Congress

Stockholm, September 1996

The Pediatric Assembly Epidemiology Group has encouraged the ISAAC Steering Committee to present sufficient abstracts to fill a whole ISAAC session at this meeting.

Deadline for abstracts is February 19, 1996

SEASON'S GREETINGS!

News from the ISAAC International Data Centre

Incredible! In August 1995 we had received data sets from 34 centres. By December 1995 we had received data sets from more than 120 centres. The high quality of most of the data files is appreciated. We are doing our best to communicate speedily with collaborators about their data sets and we appreciate the efforts that collaborators are making to respond rapidly.

The first ISAAC Phase One international data set is now closed so that the data to hand can be prepared for its first public presentation at the European Respiratory Society Annual Congress in Stockholm, September 1996.

• *from the* Data Coordination Subcommittee of the ISAAC Steering Committee

In September 1995 the Steering Committee discussed principles for the international analysis of Phase One data. The following recommendations were formulated:

1. All basic analyses must use only data as recorded on the core questionnaire. No recoding of missing or inconsistent variables should occur.
2. For basic analyses, prevalence values for all variables should be calculated as a number of positive responses divided by the total number of participants (who filled out a questionnaire).
3. Combination of variables for case definition should use only those observations where there is complete data for all variables in the case definition.

The Steering Committee urges centres who are publishing their own data to follow these guidelines.

This recommendation **overides** the statements in paragraph 3 in Section 6.1 of the ISAAC Manual. The Steering Committee is concerned about applying the original paragraph in view of the vastly different populations who are now participating in ISAAC. It is important not to introduce unknown biases which may be different between populations.

The Data Centre will undertake additional analyses to examine the effects of missing or inconsistent data on prevalence estimates.

ISAAC PHASE TWO

The ISAAC Steering Committee is reviewing the development of Phase Two in light of the participation of an unexpected, phenomenally high participation in ISAAC Phase One. We had expected data from 70 centres, not 120! The results of ISAAC Phase One are not yet known, but early results should be available publicly by September 1996.

Background

There is considerable concern that asthma and allergic diseases are increasing in both industrialised and developing countries. Much research has been conducted into the reasons why some individuals rather than others develop asthma and other atopic diseases, such as allergic rhinitis and eczema, but so far these studies at an individual level have failed to identify the reasons for changes in the prevalence and severity of asthma and allergy over time. An alternative approach is to investigate why the occurrence of disease varies between different geographical areas. The factors affecting the prevalence of disease at a population level may be different to those determining individual risk, particularly when all persons in a given area are similarly exposed, as is the case with environmental pollution or "Western" lifestyle.

Comparative studies in former East and West Germany and in Estonia, Poland and Sweden have shown substantial differences in the prevalence of allergy and the nature of wheezing illness in Eastern and Western Europe. These findings have generated fertile speculation about the reasons for the apparent increases in prevalence of allergic disease in Western Europe over the past 20-30 years. The global overview provided by ISAAC questionnaire data extends to areas of the world not previously studied and offers greater opportunities to develop and test aetiological hypotheses. However, it is important also to validate the questionnaire data as a measure of disease prevalence in centres with diverse culture, language and systems of medical care.

Hypotheses and Study Design

The ISAAC Steering Committee would welcome your ideas about hypotheses which could be tested in ISAAC Phase Two. Novel and innovative hypotheses are encouraged. Ideas on study design are also welcomed.

Modules

An archive of modules developed to date is available on individual request from David Strachan.

Please send your suggestions to:

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Asia Pacific Congress of Allergology and Clinical Immunology - Taipei, November 1995

Julian Crane, Wellington, New Zealand presented a paper "The ISAAC Study: Where we are and where we are going?"

Conference Presentations - OOPS!

We apologise for omitting several abstracts from the last newsletter. The following abstracts were also presented at the **European Respiratory Society Meeting,** Barcelona - September 1995.

P1408
PREVALENCE, SEVERITY AND DIAGNOSIS OF ASTHMA IN 6-7 YEARS OLD CHILDREN.
M.M.M. Pizzichini, T. Faulkner, R. Tedesco, G. Faulman, M.R. Sears.
Asthma Research Group, St Joseph's Hospital and McMaster University, Hamilton, Canada.

We sought to determine the prevalence and severity of asthma, rhinitis and eczema in Canadian children aged 6-7 years as a part of The International Study of Asthma and Allergies in Childhood (ISAAC).
4078 children were randomly selected from 10760 children of this age from six Boards of Education in Hamilton and near (Ontario). A standardized questionnaire on respiratory symptoms and previous diagnoses of asthma, allergic rhinitis and eczema was completed by the parents of these children.
The response rate was 76% (3117 children). Parent-reported prevalences of asthma ever, current wheezing (in the last 12 months), hay fever and eczema were respectively 17.2%, 19.7%, 10.6% and 20.7%. Males reported asthma 1.5 times, and wheezing 1.3 times, as frequently as females. Children with current wheezing diagnosed as asthma had higher prevalences of dry cough (77.0 vs 43.4%, $p<0.0001$), wheeze after exercise (66.6 vs 20.5%, $p<0.0001$), wheezing disturbing sleep (62.3 vs 35.7%, $p<0.0001$) and of hay fever (26.6 vs 13.4%, $p=<0.0001$) compared with those whose wheezing was not labelled as asthma. Among those reporting 4 or more episodes of wheeze per year (184, 5.9%) almost all (165, 89.7%) reported a diagnosis of asthma, whereas among all with wheeze of any frequency in the last year asthma was diagnosed in 59.5%.
In this region of Canada, children with 4 or more episodes of wheezing per year are very likely to be diagnosed as having asthma. This may represent a change in diagnostic habits over recent years. Those so diagnosed have more severe disease and a higher prevalence of hay fever.
Funded by: Asthma Society of Canada and Fisons, Canada.

P1409
PREVALENCE OF ASTHMA USING THE ISAAC-QUESTIONNAIRE, AND AGE SPECIFIC INCIDENCE RATES AMONG SCHOOLCHILDREN
W. Nystad*, P. Magnus*, O. Røksund**, B. Svidal**,
Ø. Hetlevik***, K.H. Carlsen****
* National Institute of Public Health, Dept of Epidemiology, Oslo; **Geilomo Children's Hospital for Asthma and Allergy, Geilo; ***Community GP Odda; ****Vokenstoppen Centre of Asthma and Allergy; Oslo, Norway.

The aim of the study was to estimate the prevalence of asthma and respiratory symptoms and age specific incidence rates of asthma among schoolchildren living in three different regions in Norway. The populations were: 1. A random sample of 2700 children living in Oslo, the capital of Norway. 2. All schoolchildren living in a rural area above 500 m including 1229 children. 3. All children living in a small industrial area (Odda) at the western coast of Norway including 838 children. The ISAAC-questionnaire was distributed to the children at school for completion by the parents. Prevalence rates are presented with 95% CI. Odds ratios (OR) were used to compare risks between groups. Survival analysis, the actuarial method, was used to estimate the age specific incidences of asthma. The response rates were about 90%. The prevalences of current wheezing ranged from 8.8% in Odda to 12.9% in Oslo. Comparing Oslo to Odda OR was 1.54 (1.16-2.05). Lifetime prevalences of asthma were 9.4% in Oslo, 8.5% in the rural area and 5.4% in Odda. OR comparing Oslo to Odda was 1.82 (1.28-2.61). Incidence rates for children younger than 2 yr were about 13/1000 personyear decreasing to 3/1000 at 6 yr.
Conclusion: There are no significant differences in prevalence rates and respiratory symptoms between Oslo and the rural area, while there is an increased risk of asthma for children living in Oslo compared to the industrial area. The incidence rates are highest during infancy.

P1410

PREVALENCE OF WHEEZING IN CHILDHOOD IN NORTH-EASTERN ITALY

D.G. Peroni, G.L. Piacentini, M.G. Zizzo, A.L. Boner.
Clinica Pediatrica and Settore Materno-Infantile Universitá di Verona, Verona, Italy

The aim of the study was to assess the prevalence of asthma-related symptoms in schoolchildren resident in the northeast of Italy (urban area of Verona), as part of the ISAAC investigation.
Two random samples of children aged respectively 6-7 and 13-14 yrs were selected. A questionnaire was distributed at school to the parents of the younger population and administered directly to the older children. The response rate was more than 90% and 2075 (6-7 yrs) and 2103 (13-14 yrs) questionnaires were returned for the statistical analysis.
The results of the questionnaire are summarised in the following table:

	6-7 years	12-13 years
Wheezing ever	23.2%	17.9%
(last 12 months)	(7.3%)	(7.4%)
Asthma ever	11.7%	11.9%
(last 12 months)	(4.6%)	(3.5%)
Exercise induced wheezing		
(last 12 months)	(3.2%)	(12.0%)

Although questionnaire responses are subjective and can be influenced, it appears that in our study there is a discrete discrepancy between the perception of wheezing and the awareness of asthma condition in both the age populations. Furthermore, there is evidence for either a lower perception by the parents or a real low incidence of exercise induced wheezing in the younger children.

PREVALENCE OF RHINITIS AND ASTHMA IN TEENAGERS: THE FRENCH-ISAAC STUDY

L. Annesi, M.P. Oryszczyn (Villejuif), D Charpin, D. Vervloet (Marseille), M. Tunon de Lara, A Taytard (Bordeaux), C Kopferschmitt, E Quoix (Strasbourg)

ISAAC Phase 1 study tries to evaluate the prevalence of childhood allergic diseases through a simple standardized questionnaire. In this paper, we report prevalence rates of rhinitis (Rh) and asthma symptoms in a group of children mostly 13 and 14 years old, living in a suburban area (Champagne, East of Paris), an industrial area in South-East France near Marseille (Etang de Berre) or in 2 large cities (Bordeaux and Strasbourg).:

Results:

	Champagne (n=2509)	Etang-de-Berre (n=3520	Bordeaux (n=3266)	Strasburg (n=1316)
Rh + conjunctivitis last 12 mths	11.7	14.8	14.8	14.7
Hay fever	16.6	11.3	15.3	15.0
Wheezing last 12 mths	13.6	15.3	12.8	12.8
Asthma attacks	10.7	14.5	15.0	10.2

Prevalence of rhino-conjunctivitis was high in all areas. Differences in prevalence of reported hay fever may be related to comprehension of the question. Prevalence of wheeze in the last year was higher in Etang-de-Berre area, possibly because of air pollutant exposure. Cumulative prevalence of asthma was higher in these studies than in previously reported surveys performed in French school children. ISAAC Phase II study will be devoted to assessing risk factors for allergic diseases and explaining between area differences in prevalence rates of such diseases.
Acknowledgements for support: Laboratoire Synthelabo France, Laboratoire Fisons, Laboratoire UCB France

ISAAC Phase One Data Submitted by December 1995

AFRICA (Anglophone)

ETHIOPIA (ETH)	Addis Ababa
KENYA (KEN)	Eldoret, Nairobi
NIGERIA (NGA)	Ibadan
SOUTH AFRICA (ZAF)	Capetown

EASTERN MEDITERRANEAN

IRAN (IRN)	Rasht, Tehran
KUWAIT (KWT)	Kuwait
LEBANON (LBN)	Beirut
MALTA (MLT)	Malta
MOROCCO (MAR)	Rabat
OMAN (OMN)	Al-Khod
PAKISTAN (PAK)	Karachi

EUROPE

Eastern Europe/Baltics:

ESTONIA (EST)	Narva, Tallinn
FINLAND (FIN)	Kuopio County, Lappland area, Turku and Pori County
LATVIA (LVA)	Riga, Rural Latvia
NORWAY (NOR)	Nord Trøndelag
POLAND (POL)	Krakow, Poznan
REPUBLIC OF GEORGIA (GEO)	Tbilisi
ROMANIA (ROM)	Cluj
RUSSIA (RUS)	Moscow
SWEDEN (SWE)	Linköping, Stockholm/ Uppsala
UZBEKISTAN (UZB)	Tashkent

Western Europe:

AUSTRIA (AUT)	Salzburg
BELGIUM (BEL)	Antwerp
FRANCE (FRA)	Marseilles, Montpellier, Pessac, West Marne
ITALY (ITA)	Ascoli Piceno, Cosenza, Cremona,Emilia-Romagna, Empoli, Firenze, Frosinone, Milano, Roma, Siena, Torino, Trento, Viterbo, Verona
GERMANY (DEU)	Greifswald, Münster
GREECE (GRC)	Athens
PORTUGAL (PRT)	Coimbra, Funchal, Lisboa Portimao, Porto
REPUBLIC OF IRELAND (IRL)	Dublin
SPAIN (ESP)	Barcelona, Cartagena, Castellón, Pamplona, Valencia

Western Europe (ctd)

SPAIN (ESP)	Barcelona, Cartagena, Castellón, Pamplona, Valencia
UNITED KINGDOM (GBR)	Anglia & Oxford, London, Northeast & Yorkshire, North Thames, Northwest, Scotland, South Thames, South & West, Trent, Wales, West Midlands

SOUTH EAST ASIA

INDIA (IND)	Akola, Bombay, Borivali, Jodphur, Madras (3 centres), New Delhi

THE AMERICAS

Latin America:

CHILE (CHL)	Punta Arenas, South Santiago, Valdiva
COSTA RICA (CRI)	San Jose
PERU (PER)	Lima

North America:

CANADA (CAN)	Hamilton, Saskatoon
USA (USA)	Chicago (2 centres), Seattle

WESTERN PACIFIC / OCEANIA

Asia-Pacific:

CHINA (CHN)	Beijing, Chongqing, Guangzhou, Shanghai, Wurumuqi
HONG KONG (HKG)	Hong Kong
JAPAN (JPN)	Fukuoka
MALAYSIA (MYS)	Alor Setor, Ipoh, Klang Valley, Kota Bharu
PHILLIPINES (PHI)	Metro Manila
SINGAPORE (SGP)	Singapore
TAIWAN (TWN)	Tainan, Taipei
THAILAND (THA)	Bangkok

Oceania:

AUSTRALIA (AUS)	Adelaide, Melbourne, Perth, Sydney
NEW ZEALAND (NZL)	Auckland, Bay of Plenty, Christchurch, Hawke's Bay, Nelson, Wellington