

I S A A C

INTERNATIONAL
STUDY OF
ASTHMA AND
ALLERGIES IN
CHILDHOOD

NEWSLETTER – JUNE 2000

Welcome to the first ISAAC Newsletter of the new millennium. I hope that all ISAAC collaborators had a safe and pleasant celebration of the New Year.

I am happy to report that preparations for ISAAC Phase Three are proceeding well with 151 centres in 71 countries indicating that they will participate. This total includes more than 20 centres that were not included in the ISAAC Phase One papers, broadening the range of countries and centres that will have collected ISAAC data. We are very grateful to the Health Research Council of New Zealand who have approved funding the IIDC for a further 3 years and GlaxoWellcome International who have made a generous donation in support of ISAAC Phase Three. Our application to the Gates Foundation is still under consideration at WHO.

ISAAC Phase Two is going very well. I am delighted to report that ISAAC's application, led by Stephan Weiland, to the European Union for funding for the Phase Two Data Centre in Munster, has been successful. I understand that there was very strong competition for the funds – congratulations for a wonderful effort. Data collection for Phase Two, in progress in 25 centres from 19 countries, is expected to be completed by the end of this year, a wonderful effort by everyone involved. *Publications;* Publications arising from international comparisons of ISAAC Phase Two data will be authored on behalf of the ISAAC Phase Two Study Group.

We are busy finalising the ISAAC Phase Three Manual, which should be distributed to participating centres by next month. There is still time to register for Phase Three – contact Philippa Ellwood (p.ellwood@auckland.ac.nz) at the ISAAC International Data Centre (IIDC) if you haven't already done so. We expect that most centres will carry out the data collection for Phase Three during 2001 and 2002. The ISAAC Phase Three Study Group will author ISAAC Phase Three worldwide publications.

The ISAAC collaborators social function at the Madrid European Respiratory Society (ERS) meeting was a wonderful opportunity to meet informally with some of the people who have contributed to the success of ISAAC. All members of the Steering Committee who were able to attend found it an enjoyable and inspirational evening. We thank AstraZeneca for their continued support of these functions.

For the last seven years of ISAAC's ten year history, the Steering Committee Meetings have been held in Europe in association with the ERS. This choice of location has been mainly for practical reasons – more Steering Committee members are from Europe than any other region, ensuring a good turn out at all meetings. However, at the 1999 Steering Committee meeting in Madrid it was decided to depart from tradition and hold the 2000 meeting in Auckland, New Zealand. The staff of the ISAAC International Data Centre are delighted to be able to welcome the Steering Committee to Auckland and are looking forward to a productive and enjoyable meeting. Unfortunately, as there will be no Steering Committee meeting in association with the ERS at Florence, Italy in 2000, there is no official ISAAC collaborators social function planned but some members of the Steering Committee will attend the Florence ERS.

Please remember that we are always looking for items of news, or any other bits and pieces to include in this newsletter. Send any contributions to Nancy for inclusion in the next edition.

On behalf of the ISAAC Steering Committee and the International Data Centre, thank you for your contributions to ISAAC.

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(Attention Innes Asher)

ISAAC WEB SITE

<http://isaac.auckland.ac.nz>
Happy browsing!

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Innes Asher
Chairperson, ISAAC Steering Committee

BY THE NUMBERS: ASTHMA WORLDWIDE

Asthma was rare in 1900, but now it has grown into an epidemic: more than 15 million are affected in the U.S. and up to 10 times that many around the world. Every year it kills 5,000 Americans, mostly older adults, and 180,000 annually worldwide, according to the World Health Organization. Why asthma rates have risen is not entirely understood, but clues come from studies showing that its prevalence tends to be highest in Western countries, particularly the English-speaking ones; it is virtually absent in parts of rural Africa. The map shows data on the prevalence of wheezing—a commonly used indicator of asthma—for 13- and 14-year-olds, taken from one of the largest epidemiological studies, the International Study of Asthma and Allergies in Childhood. Among this age group the pattern of wheezing is about the same as that in younger children and adults.

Although having an asthmatic parent—or, worse still, two asthmatic parents—increases a child's risk, there seems to be a consensus that differences such as those depicted on the map result not primarily from genetic factors but from environment and lifestyle. Precisely what elements are involved is not entirely clear. Among the candidates is the tendency of children to spend more time indoors than did those in earlier generations, thus increasing their exposure to household allergens, including dust mites, cats and cockroaches. According to one popular theory, the pulmonary immune systems of Western children, unlike those in developing countries, do not mature properly, because they are not conditioned to live with parasites, and so the children become more vulnerable to asthma and other allergic diseases such as hay fever and eczema.

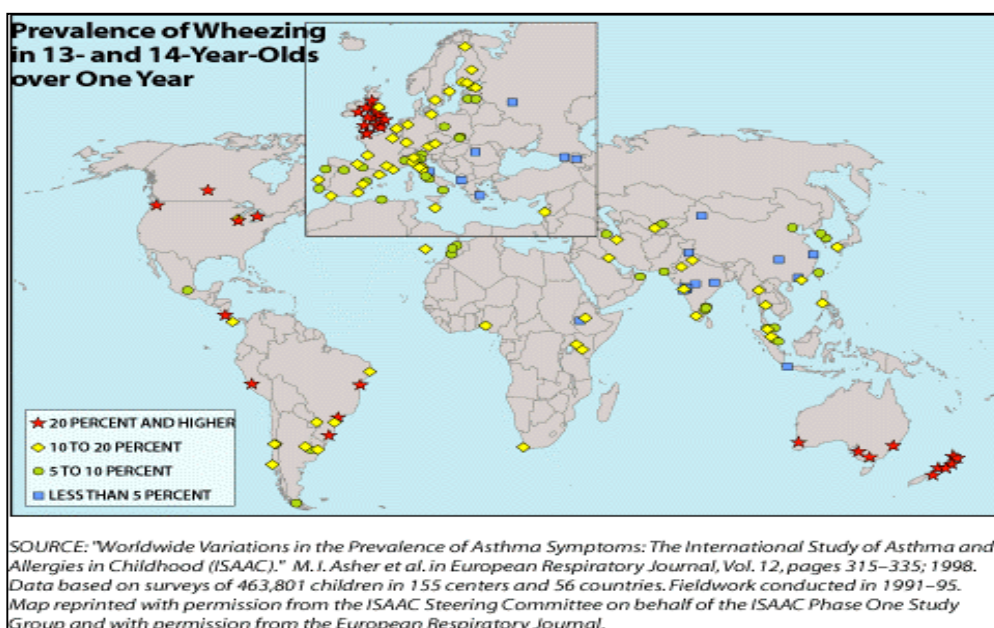
Perhaps half of all asthma takes the allergic form, which is associated with a family history of the disease. In the nonallergic form, which is more likely to affect adults, there is no family history of allergy, and the initiating factor may be as simple as a common cold, which develops into paroxysms of wheezing and shortness of breath that may go on for days or months. In both types the tracheobronchial tree becomes hypersensitive, and the diameter of the airways shrinks. Acute episodes are typically followed by symptom-free periods. Although asthma is more prevalent among children—it is now the most common chronic childhood disease in the U.S.—twice as many adults have it. Perhaps one in 10 adults with asthma contract it through exposure to occupational agents such as reactive dyes.

In addition to household contaminants, asthma can be precipitated by exercise, cold air, emotional stress, viral infections, everyday chemical agents such as aspirin, and industrial air pollutants, including ozone and nitrogen dioxide. There is no evidence, however, that outdoor air pollution is an initiating cause of asthma. Inner-city poverty is a risk factor: asthma mortality, for example, is highest among Americans of Puerto Rican and African descent. Smoking exacerbates asthma, and maternal smoking during pregnancy increases the risk for the child. Obesity is also associated with asthma.

With such a variety of factors, it is no wonder that scientists don't fully understand the natural history of the disease. Even so, they have made remarkable progress, notably with drugs such as inhaled steroids. These and other new treatments, if used regularly by all asthmatics, could for the most part prevent deaths from the disease.

Rodger Doyle (rdoyle@aol.com)

Reprinted with permission Scientific American, June 2000, page 30
<http://www.sciam.com/2000/0600issue>



UPDATE ON PAPERS. PUBLICATIONS OF ECOLOGICAL ANALYSIS OF ISAAC PHASE ONE

Recent Publications

Von Mutius E, Pearce N, Beasley R, Cheng S, Von Ehrenstein O, Björkstén B, Weiland S on behalf of the ISAAC Steering Committee

International patterns of tuberculosis and the prevalence of symptoms of asthma, rhinitis and eczema. *Thorax* 2000; 55:449-53.

In press

Stewart AW, Mitchell EA, Pearce N, Strachan DP, Weiland SK on behalf of the ISAAC Phase One Study Group

The relationship of per capita gross national product to the prevalence of symptoms of asthma and other atopic diseases in children. *Int J Epidemiol*, in press.

Papers Submitted

Ellwood P, Asher M, Björkstén B, Burr M, Pearce N, Robertson C on behalf of the ISAAC Phase One Study Group

Diet and asthma, allergic rhinoconjunctivitis and atopic eczema symptom prevalence: ecological analysis of the International Study of Asthma and Allergies in Childhood (ISAAC). *Eur Respir J*.

Anderson R, Poloniecki J, Strachan D, Beasley R, Björkstén B, Asher I on behalf of ISAAC International Steering Committee and ISAAC Europe.

International variations in immunisation rates and the prevalence of symptoms of asthma, allergic rhinoconjunctivitis and atopic eczema in children. Results from the International Study of Asthma and Allergies in Childhood (ISAAC), *Am J Pub H*.

Papers in Preparation

- Climate
- Date of birth
- Tobacco
- Air pollution
- Antibiotics

WORLD ASTHMA DAY, 3 MAY 2000

“LET EVERY PERSON BREATHE”

AUCKLAND STARSHIP CHILDREN’S HOSPITAL

As a collaborative effort, Dr Innes Asher, the Respiratory team, Starship Clinical staff and ISAAC research staff organised activities for the children, parents, and staff of the Auckland Hospital, Starship and the Auckland School of Medicine.

After several meetings and a limited budget it was decided that the World Asthma Day activities would include:

- ♣ Drawing and colouring pictures for children with a ‘prize’ for everyone that entered
- ♣ Quiz for Auckland Hospital, Starship staff and School of Medicine personnel
- ♣ Video showing of the effects of asthma, spacers etc

- ♣ Informative displays ISAAC Phase One, Spacer Study, Anti-smoking pamphlet campaign, Asthma Clinical Pathway display and Study on House Dust Mite
- ♣ Vitalograph demonstrations
- ♣ Sales representatives from AstraZeneca and GlaxoWellcome displayed their products and gave advice to the public.

The day attracted children from the wards, the University of Auckland’s crèche, hospital staff members and the NZ Herald newspaper.

ACTIVITIES IN ASTHMA

INTERNATIONAL UNION AGAINST TUBERCULOSIS AND LUNG DISEASE (IUATLD)

No.3 March Newsletter Editorial

International Study of Asthma and Allergies in Childhood.

The IUATLD supports the International Study of Asthma and Allergies in Childhood (ISAAC). Professor Nadia Ait-Khaled was the regional coordinator for French-speaking countries in Africa for Phase I of the Study, and will coordinate Phase III. Centres in this region interested in conducting Phase III of the ISAAC Study are welcome to contact her at IUATLD:

Fax: +33 143 2990 87

Email NaitKhaled@iuatld.org

The ISAAC Steering Committee met at the Conference of the European Respiratory Society in Madrid in October 1999 to plan the ongoing research program for ISAAC.

In reviewing progress to date, ISAAC Phase I has been completed, with the prevalence of the symptoms of asthma, rhinoconjunctivitis and atopic eczema determined in 156 centres from 56 countries. This provided, for the first time, worldwide patterns of disease prevalence, identifying large variations, which are not explained by current knowledge of the causes of asthma, rhinitis and eczema. These data have formed the basis of ecological analyses that are investigating the role of different risk factors for the development of atopic disorders.

Phase II began in 1995 and investigates, in detail, the role of a range of ‘established’ and ‘novel’ risk factors for the development of atopic disorders. Phase II utilises a series of standardised investigative modules, which measure environmental exposures and clinical features at the individual level. Currently over 25 centres worldwide have either completed or are currently undertaking Phase II studies. Fieldwork in all centres is expected to be completed by the end of the year 2000.

Plans are advanced for undertaking Phase III, which will examine time trends in the prevalence of asthma, rhinoconjunctivitis and atopic eczema in centres and countries that did not participate in Phase I to take part. In addition to repeating the Phase I prevalence questionnaires, a simple risk factor questionnaire will also be completed at the individual level.

The ISAAC Steering Committee is interested in recruiting further centres from countries that did not participate in Phase I to undertake Phase III.

For further information, please contact:

Professor Richard Beasley

Email beasley@wnmeds.ac.nz

ISAAC Phase III Co-ordinator

THE IMPORTANCE OF EXAMINING THE SKIN

Although ISAAC Phase One was extremely successful in gathering a large amount of useful data on symptoms of allergic diseases including atopic eczema from around the world. I still have some healthy concerns regarding the validity of such symptoms and issues relating to translation. It is for this reason that I strongly encourage all participants of ISAAC Phase 2 to participate on recording the one sign of visible flexural dermatitis according to the ISAAC Phase 2 manual if this is possible. We are not talking about an expensive or time consuming fiddly test here, but a very simple visual inspection of the arms legs neck and face according to a photographic training protocol. This examination can easily be conducted by non-dermatologists¹ and takes around 55 seconds to complete. A detailed training manual is available with 48 colour training photographs and also a quality-controlled test of 30 photographs, which I will mark immediately upon receipt of your e-mail scores.

The reason why I wish to emphasise the need for some form of physical examination of the skin is to confirm or refute the ISAAC Phase 1 findings based on symptoms only. The need for physical examination to supplement questions was brought home to me recently by a study of colleagues in Iran, which attempted to validate diagnostic criteria for atopic dermatitis there². The Iranian study compared the validity of specific questions on symptoms of atopic dermatitis against the clinical diagnosis of atopic dermatitis by one senior private dermatologist. It was good that they tested the criteria in such a setting although there were problems in the way in which they conducted the validity study³. The fact that, of the patients with atopic dermatitis in their study, thirty percent did not complain of any itching, eighty percent did not recall any flexural involvement, eighty-nine percent did not report any other atopic disorder, seventy-six percent did not have a history of a dry skin etc., made me think that the clinical

phenotype of atopic dermatitis is very different in Iran or that there were major problems with translating some of the symptom questions into the local language. Another possibility is that some cultures may be less likely to “complain” about symptoms of a skin disorder for fear of connotations of uncleanness or arthropod infestation. Such uncertainties can only be resolved by physical examination of the skin. The beauty of atopic dermatitis is that it is visible for much of the time, which provides a natural and objective way of assessing the presence or absence of disease.

So if you are participating in ISAAC Phase 2, or even undertaking a more extensive local survey of allergic disease in your area, please do not forget to include atopic dermatitis. Try and build in the physical examination of the skin as part of your study design as it is so quick cheap and easy to do, and the results might be really interesting.

Professor Hywel C Williams
hywel.williams@nottingham.ac.uk

Steering Committee Member and advisor on atopic eczema

- 1 Williams H C, Forsdyke H, Boodoo G, Hay R J, Burney P G F. A protocol for recording the sign of visible flexural dermatitis. *Br J Dermatol* 1995;133:941-949.
- 2 Firooz A, Davoudi S M, Farahmand A N, *et al.* Validation of the diagnostic criteria for atopic dermatitis. *Arch Dermatol* 1999;135:514-516
- 3 Williams H C. Diagnostic criteria for atopic dermatitis – Where do we go from here? *Arch Dermatol* 1999;135:583-86.

PHASE II FIELDWORK IN RURAL GHANA

I have just returned from a fascinating visit to Kintampo Health Research Centre in Ghana, where Phase II ISAAC studies are in progress under the local direction of Dr Paul Arthur (KHRC) and Dr Emmanuel Addo-Yobo (Kumasi Medical School), supported by a kind donation from Professor Ashley Woodcock at the Wythenshawe Hospital, Manchester, UK.

Kintampo is rural market town and district administrative centre close to the centre of Ghana, between the tropical rain forests of the coastal regions and the savannah grasslands to the north. Most of the people in the surrounding villages are subsistence farmers, growing yams and cassava, and keeping a few sheep, goats and poultry. Nutrition is suboptimal and previous work at the KHRC has focused on controlled trials of supplementation with vitamin A and other micronutrients. Houses are constructed mainly of wood and mud, with thatched or corrugate iron roofs. Few of the villages have electrical power, although Kintampo itself is on the national grid and also has an intermittent telephone connection.

Between 2½ and 4 hours drive to the south (depending on how much you value your vehicle – and your life!) lies the nearest major town, Kumasi. Here, previous work by Emmanuel Addo-Yobo, Ashley Woodcock and colleagues (*Thorax* 1997;52:161-165) established that asthma and allergy were more common among the affluent children than the children from poor urban areas or surrounding rural communities. The ISAAC Phase II study in Kintampo will extend these observations to a more remote and impoverished rural area.

All children aged 10 years in the Kintampo district are undergoing skin prick testing, skin examination and exercise challenge. These tests are well advanced, with over 1000 of the expected total of 1500 children already examined. The ISAAC Phase II questionnaires are being administered by interview, rather than in writing, because of the low level of literacy among parents in this area. Following my visit, 200 children will be tested with the hypertonic saline challenge and samples of blood and dust will be collected for laboratory analysis.

Fieldwork in these conditions is far from straightforward, with long drives on unmetalled roads to reach the outlying villages, and two teams of fieldworkers required for the interview survey and clinical examinations. Spare a thought too, for the children, running for 6 minutes in temperature between 30°C and 40°C in the shade. Ice cream is an unfamiliar but very popular reward.

It is a great credit to everyone in the KHRC team that the study is progressing so well. The purpose of my visit was to introduce the saline challenge tests. These will be carried out mainly in the Health Research Centre itself, where the technique was successfully piloted over two days. With a portable electricity supply we hope it will be possible to extend this test to eligible children who cannot easily be transported to Kintampo. Collection of dust sample will prove more challenging, requiring a generator to power the vacuum cleaner in most of the houses, but the team are willing to give it a try! Having seen their dedication and ingenuity, I have every confidence they will succeed.

As my return flight landed on a frosty runway at London's Gatwick airport, within the UK Phase II study area, I was deeply impressed by the stark contrasts between the environments and lifestyles of children in rural Ghana and southern England. The epidemiological literature suggests that asthma and allergy are exceptionally rare in rural African communities. If this finding is confirmed in Kintampo, the challenge will be to determine which of the thousand facets of "Westernisation" explains the higher prevalence of these disorders in urban Africa and industrialised societies elsewhere. Results from the other Phase II centres will be crucial to solving the puzzle, but there is no doubt that Kintampo is a very welcome and highly informative contribution to ISAAC Phase II.

Professor David Strachan, 9 April 2000
d.strachan@sghms.ac.uk

ISAAC Steering Committee Member



AN UPDATE OF PROGRESS ON ISAAC PHASE THREE MAY 2000

The return of 'expression of interest' forms sent from collaborators to the ISAAC International Data Centre (IIDC) has now slowed to a trickle. We are very pleased with the response and to date (as of 13/06/2000) we have 151 centres from 71 countries interested in participating. Of this figure there are 23 new centres, 14 of which are centres from countries that did not participate in Phase One - we particularly welcome your participation in Phase Three of ISAAC.

Only 3 centres from 3 countries have said they will not be participating and 3 centres from 2 countries are unsure at this stage about taking part. It is very pleasing to have such low numbers. 31 centres (20%) that participated in Phase One have not sent an 'expression of interest' back to the ISAAC International Data Centre (IIDC).

We are aware that some centres may require some assistance with funding and the IIDC and Steering Committee are presently working to find resources to assist these centres. In the meantime, we urge centres to try and raise funds locally and if there is anything that we can assist with, please contact us. Some collaborators have already asked for information regarding Phase Three that will aid them in approaching local Government and Non-Government organisations for assistance. We are very happy to provide any help that is required, such as a supporting letter.

ISAAC in its infancy (back in 1992) had very few centres with email addresses. Trying to fax multiple pages was time consuming and frustrating. Now, over 80% of the Phase Three interested centres have email, making communication quick, efficient, pleasant and much more personal. Some collaborators found our requests and accompanying forms during Phase One cumbersome and sometimes awkward to complete. Communicating by email has enabled misinterpretations to be quickly sorted out

and of course assists collaborators and the IIDC to complete the data and methodology checking process.

We are presently working on the Phase Three Manual and hope to circulate this to 'interested' centres within the month. The draft copy has been circulated to the Steering Committee for their input and we all recognise the importance of getting this to you as quickly as possible. The manual is very comprehensive and includes such things as guidelines for fieldworkers, copy of the report, data coding and transfer manual etc, which we hope will be of added assistance to some of you. The manual will be available in hard copy and electronic form.

The ISAAC Phase Three Brochure is now printed. We enclose for you a copy and on request to us at the IIDC we will send you more.

For Phase Three, we will be requesting Principal Investigators to start completing the Centre Report at the beginning of the data collection process instead of sending it out to you when the IIDC receives your data set. We believe that this will be easier for everyone to complete as the study progresses. We believe the Centre Report is now more user friendly and hope that you think so too.

Please feel free to contact me at any time if there is anything you require or are not sure of. The IIDC particularly would appreciate being informed of any new or changed contact details for prospective Phase Three collaborators. I am happy to be of assistance and wish you well with your Phase Three study.

Best wishes

Philippa.
ISAAC Research Manager IIDC.

Email address: p.ellwood@auckland.ac.nz
Fax number: 64 9 373 7602

EXERCISING PROVOCATION TESTING

I see that some centres are using free running as an exercise provocation test in Phase 2. I can recommend this test: the children find it very acceptable, it can be conducted virtually anywhere, and it requires no equipment except peak flow meters. The only other prerequisite is that the investigators must be prepared to take exercise themselves. It is sometimes necessary to encourage the children to keep going by running with them.

Some years ago I was conducting a survey at a school where one child on the class list never in fact attended school; her family were gypsies and disapproved of the education system. I therefore, visited her caravan, where I was well received, and the questionnaire was duly completed. The girl agreed to perform the exercise test, but where could she run? She refused to go to the school, the caravan was too small, and the lane was too dangerous. The only option was the adjacent field, so she climbed over the gate, I shouted "Go!" and started the stopwatch. But the girl was reluctant to run on her own, and her sister declined to run with her. There was no alternative but to climb over the gate and run round the field with her, taking care to run in parallel rather than in series so as to avoid the appearance of chasing her round the field (or being chased by her). It seemed a very long six minutes, especially as I was aware of a row of gypsies watching the extraordinary sight from the other side of the hedge. But I was able to get all the data I wanted.

Doctor Michael Burr

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ISAAC Steering Committee Member

ISAAC WEB SITE UPDATE

Phase One Data

The only alterations to the ISAAC web site (<http://isaac.auckland.ac.nz>) over the last year have been minor updates of the Publications, Steering Committee and Coordinators pages. However we hope that this will change later this year as we plan to add a large section presenting the ISAAC Phase One data.

One option for presentation of the Phase One data is preparation of a page for each centre presenting the data in detail, along with information concerning the manner in which the study was conducted in that centre. However, this would require some time to manually generate all the pages and users would have to navigate to the pages for specific centres by following a series of links.

Another option is to develop a web based interface to a database that would allow users to search for centres based on a range of characteristics such as centre name, principal investigator, region, etc. I personally favour this option as it is more flexible, allowing users to identify centres based on their own interest, and is much easier to maintain once implemented. It would also be a shame to ignore the dynamic capabilities of the Internet by presenting a large amount of static information. The disadvantage of the more interactive approach is that it will take some time to acquire the required knowledge and skills (I'm working on that part now), and it will also take some time to develop the database and interface.

The ISAAC Steering Committee would like to know your reaction to having your ISAAC Phase One data published on the web site. Are you agreeable to this, or do you have any reservations? I'd value comments and suggestions from any ISAAC collaborators regarding any aspects of the planned presentation of Phase One data. Feel free to contact me at t.clayton@auckland.ac.nz.

Phase Three

All ISAAC collaborators who are planning to carry out Phase Three should check the ISAAC web site regularly over the next few months. We plan to place the ISAAC Phase Three Manual on the web site as soon as it is published. We will distribute copies by mail to everyone who has expressed an interest in Phase Three as soon as possible, but the Manual may be available on the web site a little sooner. Other material concerning Phase Three will also be posted on the web site, as it becomes available.

Did You Know?

A search for "International Study of Asthma and Allergies in Childhood" on the Alta Vista search engines (<http://www.altavista.digital.com/>) lists 97 web pages. While this might seem like a lot, other searches on Alta Vista often identify hundreds of thousands of web pages – just try searching for "asthma"!

Happy browsing

Tadd Clayton
IIDC Data Manager

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ABSTRACTS PRESENTED AT THE ERS ANNUAL CONGRESS MADRID, SPAIN, OCTOBER 9-13 1999

P899

THE RELATIONSHIP OF PER CAPITA GROSS NATIONAL PRODUCT TO THE PREVALENCE OF SYMPTOMS OF ASTHMA AND OTHER ATOPIC DISEASES IN CHILDREN: THE INTERNATIONAL STUDY OF ASTHMA AND ALLERGIES IN CHILDHOOD (ISAAC)

Alistair Stewart, Ed Mitchell, Neil Pearce, David Strachan, Stephan Weiland. On behalf of the ISAAC Steering Committee; University of Auckland, Auckland, University of Otago, Wellington, New Zealand; St Georges Hospital Medical School, London, United Kingdom; Westfälische Wilhelms Universität, Muenster, Germany

Increasing prevalence and worldwide variation in asthma and other atopic diseases suggest the presence of an environmental factor, possibly related to economic wellbeing. This analysis examines the relationship of atopic diseases with gross national Product (GNP). The prevalences of atopic diseases in 6-7 and 13 – 14 year old children were assessed in 91 centres in 38 countries and 155 centres in 56 countries respectively in the International Study of Asthma and Allergy in Childhood. These were related to each country's 1993 GNP per capita as reported by the World Bank. The relationships between atopy and infant mortality, the human development index and 1982 GNP were also considered. The countries in the lowest quartile of GNP have the lowest median positive responses to all the questions on atopic diseases. There was a statistically significant positive association between wheeze in the last 12 months and GNP in the 13 – 14 year age group, but not in the 6-7 year age group. There was also a positive association between GNP and eczema in both age groups. The positive association between GNP and atopic disease being of only moderate strength suggests that the putative environmental factor is not just related to the wealth of the country.

Complete Reference

Stewart AW, Mitchel EA, Pearce N, Strachan DP, Weiland SK on behalf of the ISAAC Steering Committee. The relationship of per capita gross national product to the prevalence of symptoms of asthma and other atopic diseases in children: the international study of asthma and allergies in childhood (ISAAC). *European Respiratory Journal* 1999; 14 (Supplement 30): 132s.

ERS992

ABSTRACTS PRESENTED AT THE ERS ANNUAL CONGRESS MADRID, SPAIN, OCTOBER 9-13 1999

Continued ..

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DIET, ASTHMA AND ALLERGIES: A FURTHER ECOLOGICAL STUDY WITH ISAAC (INTERNATIONAL STUDY OF ASTHMA AND ALLERGIES IN CHILDHOOD) PHASE ONE WORLDWIDE DATA

M.I. Asher¹, ¹Department of Paediatrics, University of Auckland, Auckland, New Zealand

MI Asher, on behalf of the ISAAC Steering Committee.

Macronutrient analyses (presented 1998), using Food and Agriculture Organisation of the United Nations (FAOSTAT) and ISAAC Phase One data showed an association between fat intake and current wheeze.

This analysis used ISAAC 13/14 age group prevalence data for current and severe wheeze, allergic rhinoconjunctivitis and atopic eczema and 1995 FAOSTAT data from 53 countries. Each atopic condition, assessed with per caput/day macro and micronutrient data, used a generalised linear mixed model, with and without GNP as a marker of social and economic development.

After controlling for GNP, vegetables (% total energy) were consistently inversely associated with the 3 atopic conditions: current wheeze (co-efficient -0.036, standard error 0.014, $p = 0.01$), wheeze disturbing sleep (-0.005, 0.002, $p = 0.04$), allergic rhinoconjunctivitis (-0.028, 0.013, $p = 0.03$), atopic eczema (-0.014, 0.007, $p = 0.05$). Vegetable micronutrients (vit A, vit E) followed a similar pattern. A positive association between total saturated fat and current wheeze disappeared when corrected for GNP. There were no consistent associations for other foods. This analysis suggests that differences in diet in countries throughout the world are associated with prevalence rates of atopic disease. Vegetables and vegetable micronutrients have a protective association with atopic disease, warranting further investigation.

Complete Reference

Asher MI on behalf of the ISAAC Steering Committee. Diet, asthma and allergies: a further ecological study with ISAAC (International Study of Asthma and Allergies in Childhood) Phase One worldwide data. *European Respiratory Journal* 1999; 14 (Supplement 30): 151s.

ER994

P891

AGREEMENT BETWEEN WRITTEN AND VIDEO QUESTIONS FOR ASTHMA SYMPTOMS IN ISAAC

J. Crane¹. On behalf of the ISAAC Steering Committee; ¹Medicine, Wellington School of Medicine, Wellington, New Zealand

Phase One of the International Study of Asthma and Allergies in Childhood (ISAAC) measured the prevalence of asthma and allergic symptoms by self completed questionnaire to 13 – 14 year old children. In 99 centres, 317,000, 13-14 year old children also completed video questionnaire, which was an audiovisual presentation of 5 asthma symptom sequences. Two versions of the video were used with the sequence showing wheezing at rest common to both versions. The proportion of agreement between the written and video questionnaires for 12 month period prevalence of wheezing was high, mean 0.89 range 0.77 to 0.98. The proportion of agreement however was unbalanced with good negative, but poor positive, agreement. Consequently kappa coefficients were low with only 20 centres showing kappa values greater than 0.4, with the lowest value 0.05. English speakers had higher values than non-English speakers. Centres in N Eastern Europe and mainland China showed uniformly low agreement. Centres in SE Asia, Spain and Spanish speaking countries of S America, showed variable agreement, while the 10 centres in Australasia showed some consistency (range 0.4-0.49).

Understanding of the term wheezing, its translation and its video presentation, needs to be further explored across languages and cultures in order to better compare symptom prevalence internationally.

Complete Reference

Crane J on behalf of the ISAAC Steering Committee. Agreement between written and video questions for asthma symptoms in ISAAC. *European Respiratory Journal* 1999; 14 (Supplement 30): 130s.

ER993

ISAAC PHASE THREE

Planning for Phase Three of the ISAAC programme is well advanced and it is anticipated that everything will be in place for the start of the data collection in January 2001. The key components of the study's organisation are now in place:

- 1 Confirmation of the regional co-ordinators:

ISAAC REGIONS

Anglophone Africa
Francophone Africa
Latin America
North America
Oceania
Western Europe
Northern and Eastern Europe
Eastern Mediterranean
Indian subcontinent
Asia-Pacific and Southeast Asia

REGIONAL COORDINATOR

Joseph Odhiambo
Nadia Ait-Khaled
Javier Mallol
Greg Redding
Neil Pearce
Ulrich Keil and Stephan Weiland
Bengt Björkstén
Stephen Montefort
Jayant Shah
Chris Lai

- 2 Recruitment of collaborators with 151 participating centres and 71 countries having registered for the study.
- 3 The completion of the draft manual which is currently undergoing its final review.
- 4 Funding of the ISAAC International Data Centre for Phase Three in Auckland for three years by the Health Research Council of New Zealand.
- 5 Funding of other aspects of the international co-ordination of Phase Three having been received from GlaxoWellcome (See below).

MAJOR GLAXOWELLCOME RESEARCH GRANT

ISAAC is fortunate to have recently received a major grant from GlaxoWellcome, United Kingdom. This grant has been received to support Phase Three of the ISAAC program. It will be used to compliment other funding and also:

- 1 To support the international co-ordination of the programme through funding of the 10 regional co-ordinating centres.
- 2 To support the Co-ordinating Centres in their ongoing activities.

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ISAAC Steering Committee member

SOME ACHIEVEMENTS FOR THE ISAAC INTERNATIONAL DATA CENTRE 1999 - 2000

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| June 2000 | Phase Three manual progressing well
Environmental Questionnaire being developed |
| May 2000 | IIDC participation in World Asthma Day at the Starship Children's Hospital, Auckland
Health Research Council Grant application successful
Printing of ISAAC Phase Three brochure
GNP paper in press
Diet paper submitted |
| April 2000 | Nancy Williams on board – Senior Administrative Assistant IIDC |
| December 1999 | Successful Lottery Board Grant New Zealand for IIDC |
| June 1999 | Hawkes Bay Medical Research Foundation (New Zealand) extension of existing grant for IIDC. |