CHILDREN OF THE 90s

Newsletter

for Professionals

August 1994

ALSPAC

The Avon Longitudinal Study of Pregnancy and Childhood (ALSPAC - or "Children of the Nineties") is a research project of the University of Bristol designed to monitor and to analyse the origins and influences of different factors affecting health and development of a geographical cohort of children born in Avon. It is part of a WHO initiative taking place in seven other centres in Europe.

THE END IN SIGHT?

It has been planned from the beginning of ALSPAC that we in Avon and our European collaborators would examine all of our children when they reach seven years of age. Now that our oldest children are three and show no signs of having a six-month break from getting older (something we have long considered would be a Good Thing), we are having to face up to the challenge. How do we organise full developmental, intellectual and health checks on all 14,000 children when they are seven years old?

After seriously considering early retirement and deciding that we would actually miss the adrenaline, we began some serious thinking and came up with a lot of very good questions. What checks/tests will we have to do? How long will they take? Who will fund them? Who will do them? How and where will they be done?

The first of the questions at least is straightforward. The tests at 7 are to provide the major outcome measures of the study. We therefore need to include a complete medical examination, including anthropometric measures, blood pressure, vision and hearing. We also need measures of speech and language, motor co-ordination, fitness, intellectual ability and educational attainment. How much we will be able to do, and therefore how long it will take, will depend largely on the next question - the funding.

Now to how and where the tests are done. Visiting schools with a team of staff seems like a good idea until you realise that there are currently 321 schools in our area in which there are seven year olds, not including private schools, and that the children are split between infant and junior parts of primary schools. Future boundary changes may make this even more difficult.

Our children reach seven over a 21 month period - more if the premature babies are included. So one visit per school would find ALSPAC children at widely varying ages. Even with only one visit per school we would need more than one team since there are only about 245 available school days in the 21 month period.

Fortunately there is time for more thinking and perhaps the Children in Focus-type clinic would be a better solution, but we would need at least two such clinics six days a week.

Early retirement anyone?

Sue Sadler (Editor)

PROTOCOLS

We now have detailed protocols available for ALSPAC, and for the 'Children in Focus' sub-study. They give the background aims, methods, some preliminary findings, and plans for further data collection and analysis. Send a large self-addressed envelope and a cheque for £4 (for the ALSPAC protocol) or £2 (for the Children in Focus protocol) made payable to the University of Bristol to: *The Newsletter Editor, Children of the Nineties, Department of Child Health, Royal Hospital for Sick Children, St. Michaels Hill, Bristol, BS2 8BJ*

CHILDREN IN FOCUS

Our marathon **18 month clinic** ended in June. Unlike those at 4, 8 and 12 months, which took around 75 minutes, this one took 2 hours. We are very grateful to the parents and carers of the 1,189 children who gave up their time to attend.

We looked at vision, glue ear, a 3-day dietary diary and took accurate growth measurements and a capillary blood sample, as before. What took the time was the 50 minute Griffiths measure. Most children enjoyed it though, and the testers learned a great deal about 18 month olds.

The Griffiths test is valuable in itself, but is also a vital adjunct to other areas of research such as diet, anaemia, vision and hearing.

The **'2 year'** clinic began in July after a short, much needed break. In fact, we are seeing the children at 25 months, and are looking again at vision, glue ear, and growth, and for the first time at their developing speech and language. We are not taking a blood sample this time.

Speech and language assessment at 25 months

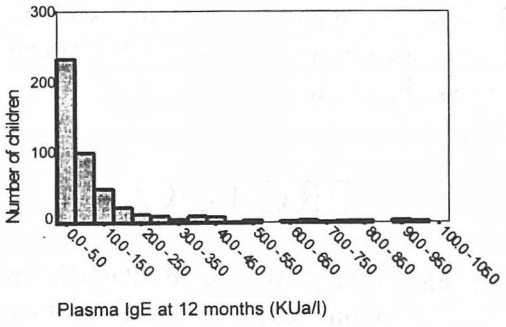
As we change clinics it seems that the children are suddenly 6 months older. Staff have been fascinated by the differences in the children at 2 compared with 18 months. The way they communicate can be delightful. A little girl, when asked if the measurer could put the funny hat round her head (the tape to measure head circumference), replied 'Like a Red Indian!' Another saw the kiddimetre length measurer on the floor and immediately lay down very straight on it. Others, when the probe of the tympanometer is taken away from their ear, say 'more!' Alas, this is more than balanced by those who see it heading for them and say very clearly 'No!'.

The question mark over our future **premises** has finally been removed. Work has been started in the lower ground floor of the Homeopathic Hospital. This area, known affectionately as 'the basement', will provide a delightful reception room overlooking the garden, 4-5 clinic rooms and an office area.

We hope to move in the late summer.

Immunoglobulin E

At the 8 month, 12 month, and 18 month 'Children in Focus' clinics we have taken capillary blood samples. The primary aim has been to study anaemia in young children. Haemoglobin and ferritin levels were therefore measured, but a minority of samples were large enough also to measure IgE. IgE is a known predictor of atopic disease.



12 month histogram

The preliminary results for 12 months are shown above, and there was a similar pattern at 8 months. Approximately 25% of the children, had IgE levels above 10. It is of course possible that those children from whom we were able to take more blood were not a random sample, and since they were from the 'Children in Focus' cohort they were all born in the period June-December, so there is a strong seasonal bias. Nevertheless, this is a glimpse of IgE distribution in a geographical population of very young children which is interesting in itself. We plan to compare the children's IgE levels with their families' pet ownership, their mothers' IgE levels and the children's atopic diseases as they develop.

NEWS FROM CAMBODIA

Some of the 'Children of the Nineties' have moved abroad. We have families participating from Australia, New Zealand, South Africa, Brazil, Mexico, USA, India, Sri Lanka and Cambodia as well as all parts of Europe. We were delighted to receive a fascinating letter from Helen and Peter in Cambodia. It puts our concerns about children's health and development in to a new perspective. Here are some extracts:

"The list of animals in the speech section of the ALSPAC 15 month questionnaire didn't include 'gekko', 'mosquito' (tito), 'fly' or cockroach' (ock-boo), all of which were among Esther's first twenty words. We had been giving the usual sort of answers to the questionnaires but then we decided to take up an opportunity for Peter to fill a year's vacancy in a Christian medical team working in Phnom Penh, Cambodia.

Esther, age 1, with U.N. soldiers in Phnom Penh

Peter is a paediatrician who has worked in Southmead and St. Michael's hospitals. He is married to me, Helen. I used to work as a trainer in a computer software company in Easton-in-Gordano, and we have one daughter, Esther, born in September 1992, who is part of the 'Children of the Nineties' study. We have joined a team working in a government hospital alongside existing staff, hoping to improve their skills and to set up some community health care which is currently almost non-existent.

The hospital is almost unrecognisable by UK standards; there is almost no equipment and beds are bare, with patients bringing their own bedding and food. The biggest surprise is that after about 10am there are no staff to be found; government health workers are paid US$10-15 a month (a low wage even by Cambodian standards), so they work in the hospital from 7.30 - 9.30am, after which they go off to other jobs to earn some more money. We are trying to motivate the staff to work slightly longer hours which is proving difficult as we do not want to pay them more. That may seem unfair, but the project aims to be sustainable so that when the team leaves (after 3-5 years if Cambodia remains stable that long), everything we have set up will carry on.

One of the first things we did was to conduct a community survey, interviewing 2% of mothers in our district with children under 5. Along with other surveys, ours has highlighted the very basic needs of the area. Although 85% of the mothers had their last baby in a hospital or clinic (much higher than usual in Cambodia, because we are working in the city), when you realise that none of those in our area can yet provide pain relief, do a caesarean section or give blood transfusions, there seem to be few advantages to hospital delivery. Not surprisingly, a frighteningly high number of mothers die as a result of childbirth. Some of our funds have been used to buy a Ventouse suction set for each building, a small step to improve care.

Childhood mortality is also high, with 99 out of a 1000 children dying before 5 years old. The biggest causes of illness and death are diarrhoea, respiratory illness, measles, dengue haemorrhagic fever and malaria (the last two spread by mosquitoes). It isn't surprising that measles is such a problem when the survey shows that only 20% of children were immunised last year.

This story isn't all bad; almost all mothers in Cambodia breast feed, mainly because bottle feeding isn't a realistic choice when one tin of milk powder costs the same as a hospital worker's monthly wage. However formula milk is becoming more widely available and those with higher wages seem to be changing to bottle feeding, so education on breast feeding is needed. For some reason it is thought that colostrum is bad for babies, so no mothers breast feed for the first three days; instead babies are fed sugar water - usually made up with unboiled river water and given from unsterilised cups.

Esther was 11 months old when we arrived, so has adjusted very well, to the extent of being the only team member who would happily eat a bowl of plain

rice! Our main worry was her health, but thanks partly to an excellent water filter, she has remained well and happy, despite a recurrent heat rash that horrifies Cambodians! Adjustment has been harder for Peter and I; he finds the work frustratingly slow at times and I have been surprised to realise how much work is involved in keeping a toddler entertained. Finding Cambodians for her to play with has been harder than I expected. Children her age sit and do nothing, since no-one gives them any input until 2 or 3 years old, and older children treat her the same way as Cambodian adults do and try to carry her everywhere, much to her annoyance.

Despite the frustrations, we are enjoying our time here. It will be just as great a shock to return from the extreme summer heat, busy market stalls and threadbare hospitals to an English autumn, supermarkets, and high-tech, busy hospitals next September."

NEWS FROM ELSPAC

In July, our ELSPAC colleagues gathered in Bristol to share experiences and to put together the first comparative data for a book which was planned in outline in September 1993. These preliminary data from the different centres will be a glimpse of the health and wellbeing of pregnant mothers, their medical and social history and their signs and symptoms in pregnancy. It will be published under the auspices of the WHO.

It is perhaps not surprising that the countries which had the most difficulty in recruiting women to the Study were those where a private system of health care makes it hard to contact dozens of independent obstetricians for their permission and co-operation in enroling their patients. As a consequence, antenatal recruitment in Greece has been limited, but the hard work of the study co-ordinators has made inroads into this over the past year.

Our newest collaborator, Dr. Lili Mikecin of Croatia, has successfully launched a pilot study in preparation for full participation, which will take place in a town near the Austrian border. A pilot study is also taking place in Estonia although the study co-ordinator Professor Mai Maser faces serious problems with funding. The Isle of Man, one of our earliest collaborators, has now passed the three-year stage and their excellent response rates have continued. Ukraine and the Czech republic are working hard to maintain the momentum of their successful recruitments. In Ukraine in particular, a high profile is given to the study in all their centres by frequent appearances on T.V. One more centre is about to be added to the five already conducting the Study in various parts of the Ukraine.

We were delighted to be able to welcome Rimma Ignatyeva, study co-ordinator for the Yaroslavl ELSPAC centre and one of the members of the Co-ordination and Executive Committee. After the disintegration of the Soviet Union and the ongoing economic crisis in the Russian Federation, ELSPAC Yaroslavl has been facing setbacks which may have seemed insurmountable to anyone but Rimma.

One by one her staff left her to take up better paid jobs, often in the new medical insurance sector. In addition to having lost almost all her colleagues, she managed to continue her work despite further grant cuts. Last year, she was forced to cancel her visit to the British meeting because of massive political unrest. Undaunted by the difficult communication problems between Moscow and Bristol she has continued her research work and despite problems in arranging travel, Dr. Ignateyva came to Bristol with her fascinating contributions to the first ELSPAC book.

We are also pleased to welcome Rimma's son, Dr. Vadim Kagramanov, who is a paediatrician and joined us for the first time in Bristol. Vadim has contributed to the book with extensive and revealing environmental data which he has collated on the Yaroslavl area, and compared with pollution levels in other ELSPAC areas.