Report of Granada Progress Meeting – April 2008

The seventh General Assembly meeting took place in beautiful Granada, Spain as part of Granada Science Week – a gathering of scientists from three different EU funded research projects, HELENA, EARNEST and Nutrimenthe. As there is much of common interest between these three projects, the Early Nutrition Academy, in the person of Professor Cristina Campoy from the University of Granada, organised a symposium on early nutrition programming to coincide with the progress meetings. The blue skies and snowy hills of the Sierra Nevada provided a suitably dramatic backdrop to our discussions. Evening receptions in the shadow of the Alhambra, while being entertained by belly dancers, provided a very Andalusian feel to them.

The morning session of the General Assembly was an opportunity for members of the different Themes to update the whole group on their recent findings. **Prof Erika Isolauri** from Turku, Finland described some of their findings from the seven year follow up of the NAMI trial (Nutrition, Allergy, Mucosal Immunology and Intestinal Microbiota). This was a trial of a perinatal probiotic intervention in families with a history of atopic disease. They wanted to see whether probiotics, given in pregnancy and early life, had any effect on the growth of the children at seven years. They hypothesized that as growth is slower in children with atopic eczema, probiotics might also lead to more normal growth rates in these children. They have now completed the clinical 7-year follow-up and preliminary analysis of the data suggests that there was no difference in growth rates by seven years. Currently, the 10-year follow-up data on growth are being collected to confirm the long-term safety of the approach.

Prof Sjurdur Olsen described the results from the follow-up of children born to mothers supplemented with fish oils during the last trimester of their pregnancy. This found that sixteen years later, children whose mothers had been given the fish oil supplements had a significantly lower risk of developing asthma than those whose mothers had been given olive oil capsules. However, the interpretation of the trial was complicated by the fact that children whose mothers had been given no supplements also had a lower risk of developing asthma. Though it is theoretically possible that it was the olive oil supplements that increased the risk of asthma, he said they considered that it was more likely that some of the mothers in the ‘no oil’ group had voluntarily increased their intake of fatty fish, or even taken fish oil supplements themselves, since all the mothers had been told that the trial was to test the benefits of fish oil on reducing the risk of pre-term delivery and low birth weight.

Prof Harry McArdle explained some analyses his group have been doing to try and identify which genes are important in controlling programming effects. The gatekeeper hypothesis proposes that common outcomes which arise from different nutritional interventions might be due to gatekeeper genes which are involved in metabolic pathways which have outcomes in common. So characterising which genetic changes were produced by different nutritional models and then identifying which were associated with the same outcome might be one way of pinpointing which genes are involved in metabolic programming. **Dr Sylvain Sebert** described his latest work on nutritional programming of plasma insulin and the FTO gene and **Prof Jan Kopecky** discussed AMP-activated protein kinase during the perinatal period and the control of muscle metabolism and thermogenesis.

The afternoon was given over to individual theme meetings. Two training workshops were also held during the progress meeting. One was on the communication of science, led by Dr Margaret Ashwell, Rhonda Smith and Anne de la Hunty while the other was on compiling and comparing epidemiological data on maternal dietary intake collected in prospective EU birth cohorts, led by Prof Sjurdur Olsen and Dr Michelle Mendez.