



Gateshead Millennium Study Newsletter

The Gateshead Millennium Study (GMS) is celebrating over 10 years of researching children's health. We appreciate the enthusiasm and support of the 'Millennium' children themselves, their parents, and everyone else who has made the GMS a success. We hope GMS families will want to be involved as the study continues and evolves. This newsletter tells you about some of the research GMS families have been involved in so far and our plans for the future. Most of our families still live in or around Gateshead and the north east; around 30 live elsewhere in the UK, and at least 5 live abroad. We hope GMS families will remain involved in the study, wherever they live.

We previously sent GMS families a leaflet with a summary of results. This newsletter gives details of the GMS results since then. This information is also available on the study website along with drawings and pictures we have received from the children over the last few years. You can visit the site at: <http://research.ncl.ac.uk/gms/>

How it all began...

The 'Millennium Baby Study' was set up to look at the feeding and growth patterns of Gateshead babies who were born between 1st June 1999 and 31st May 2000, and 1029 babies and their families joined the study. Of course, the children are no longer babies and so the title of the study has been changed to the 'Gateshead Millennium Study'.

GMS parents have completed questionnaires for the study since the children were born. As the children have got older they have also been able to help with the study, and in 2006/07 and 2008/09 we visited the GMS children at their schools to measure them and complete questionnaires with them. Since 2006 we have visited over 700 of the GMS children. This is a fantastic number to still be involved 10 years on and helps to make the research a success.

When the study began we looked at why some babies don't grow as well as others. As the children have got older the focus of the study has changed, and we are now trying to understand why some children become overweight. We all want our children to grow up healthy and the GMS is doing valuable research to help this.

The latest results from the GMS...

New infant growth charts

New infant growth charts have just been introduced in the UK using information collected by the World Health Organisation, which shows how healthy children should grow worldwide. The GMS children played an important role in this. During their first year, the GMS babies had their weight measured many times in baby clinics and parents copied the weights onto the questionnaires they returned to the study office. We received an average of 13 weights per child in the first year.

We were able to use the weights we collected from the GMS babies to check if the new World Health Organisation infant growth charts were suitable for use with babies in the UK. The GMS information showed that previous charts expected babies to gain weight at a faster rate than was healthy. On the new charts fewer babies will now be considered underweight and mothers will be able to tell earlier if their child has a tendency to be overweight. The new charts are now in the Personal Child Health Record that all parents are given after their baby is born. There is more information about the new growth charts at: www.growthcharts.rcpch.ac.uk

Appetite, eating behaviour and weight gain

The majority of children were rated as having good appetites as babies, and those with the best appetites as babies tended to continue to be rated as having a good appetite into childhood. Many parents thought that their toddler had feeding problems, and although slow early weight gain was a bit more common in children with more reported feeding problems, most of these children still grew well. Children with big appetites as babies went on to be taller but not fatter at 7 years old. This means that most parents can be reassured that however poor their toddler's eating habits are, they are unlikely to cause growth problems in childhood.

At school age (5-6 years), mothers who reported that their child naturally stopped eating when they were full tended to be less fat at 7 years. Those children reported to have frequent drinks or to eat in response to their emotions tended to be fatter. This means that by school age some eating characteristics *are* related to weight gain.

How common are repetitive behaviours in toddlers and young children?

Young children often seem to want to do or say the same thing over and over again, such as playing with the same toy, asking the same question(s) or wanting to listen to the same tune. These are examples of repetitive behaviours and they are often reported in children with autism. We asked parents about a whole variety of these types of behaviour. Our results showed that the GMS children in general had a wide range of different repetitive behaviours at 2 years old. These behaviours were more common in boys and the most common behaviours were having a special object the child liked to carry around, such as a teddy, and having a fascination with a specific

object, such as trains. At school age the types of repetitive behaviours changed and occurred less although they did not disappear. This means that it is usual for young children to show a range of repetitive behaviours and that they tend to reduce with age.

Recognising overweight in children

When the children were 7 years old we asked parents about their child's weight status. We found that when compared to current body mass index (BMI) standards used by professionals, most parents with an overweight child did not report that their child was overweight. When we looked at parents' views on their child's weight status and the different body measurements we took, we found that parents were more likely to identify if their child was overweight when more visible characteristics, such as waist size, were used. From this we have been able to recommend that interventions aimed at reducing childhood overweight should rely less on BMI and more on characteristics that parents can see.

In focus groups, parents told us that they tended to compare their child with others in the neighbourhood or at school to decide if they were a healthy weight or not. Parents thought that overweight in children was an important issue, and that it would be useful if they were provided with ways to judge when a child has an unhealthy body weight. We plan to work on this in the future.

Physical activity

Physical activity is good for children both socially and for health. We used activity monitors to measure the children's physical activity. This way of collecting information was shown to be better than asking parents about their child's physical activity, as parents' reports tended to be overestimated, sometimes by as much as 2 hours per day. The Health Survey for England will also now use activity monitors to measure physical activity in children, which will help towards more accurate and realistic guidelines.

Overall, at age 7 years children were more active in the summer months, and boys tended to be more active than girls. We found that the most active children at 7 years were more likely to be a healthy weight and more likely to be interested in active play, and to walk or cycle to school. This is encouraging; we believe that making it easier and safer for children to walk or cycle to school could help children enjoy more active, healthy lives.

We have also found that in the 2 years between information being collected at 7 and 9 years old, the children were taking part in less physical activity and were spending more time in sedentary activities. Girls had decreased their physical activity more than boys, and children who were fatter at 7 years old were more likely to be sedentary at 9 years old. These results show that children become less active whilst

still at primary school. Children are recommended to do at least 60 minutes of physical activity every day, at a level equal to a brisk walk or higher, but few GMS children did this much activity every day at ages 7 years and 9 years. Knowing this should help schools and parents encourage children to be more physically active whilst still at primary school to help them be healthy.

What else has the GMS information been used for...

Newcastle University held an event at The Sage on 16th March 2010 together with Gateshead Council, Gateshead PCT and Gateshead Foundation Trust. It was called 'Growing up healthy in Gateshead' and it was part of the Economic and Social Research Council (ESRC) Festival of Social Science Week. All GMS parents were invited to this event and we were delighted that some attended. Some of the results from the GMS and child health in general were discussed. We think the event was interesting and successful in letting more people locally know about the study.

At this event we announced the winners of the children's "design a logo" competition: Avrohom Miller and Emma Drewett. We combined Avrohom's active fruit and Emma's Angel of the North to create the new GMS logo shown below. You will see the new GMS logo on all future documents. We are grateful to all the children who sent us their designs.



The future of the Gateshead Millennium Study...

As you can see we have lots of interesting results from the study. We are pleased with the success of the GMS and would like to thank GMS families for their continued support. We hope to visit the GMS children again at secondary school so that they can continue to share their experiences with us.

We would be pleased to know the **secondary school** your child is/will be attending. Also, if you have any changes to your contact details, please let us know. You can phone us on (0191) 222 8896, email us at gms@ncl.ac.uk or write to us: Gateshead Millennium Study, Children's Department, Queen Elizabeth Hospital, FREEPOST NAT3177, Gateshead NE9 6BR (no stamp needed).