

TRIGR Family News

EDITOR'S CORNER

Dear Study Families!

Welcome to the TRIGR Family News! In this issue Professor Åkerblom tells about the birth history of TRIGR in his editorial. Research Fellow Susa Sorkio presents data on infant feeding patterns among babies participating in TRIGR. This issue is published at the beginning of December and therefore we are concentrating on Christmas habits in different TRIGR countries. MERRY CHRISTMAS AND A HAPPY NEW YEAR TO ALL OUR READERS!

Matti Koski
Chief Editor

EDITORIAL: THE START OF THE TRIGR PROJECT



Hans K. Åkerblom
Principal Investigator of the Study until June 30, 2008,
Deputy from July 1, 2008

The origin and development of type 1 diabetes (T1D) has been studied for several decades, and at the beginning of the 1980's the hypothesis was the following: the destruction of the insulin-producing beta cells in the pancreas is caused by some environmental factor via an autoimmune reaction in such individuals who are genetically prone to the disease. Some viral infections were the most suspected ones among the environmental factors, and during the 1980's attention was paid in addition to nutritional factors, especially to the possible role of cow's milk proteins (CMPs).

Professor Robert Elliott from Auckland, New Zealand, monitored the health of children in West Samoa. He noticed that T1D did not exist among the children living on the islands, whereas in Auckland there were Maori children with T1D. Then he started to study the living conditions of the children in West Samoa and noticed that CMPs did not exist in their diet, because there were no cows on the islands. In the early 1980's Dr. Elliott visited the laboratory of Professor Julio M. Martin in Toronto, and mentioned the difference in T1D between the two groups of Maori children. Drs Elliott and Martin decided to carry out a study in diabetes-prone BB-rats exposed to a CMP-free diet. The prevalence of autoimmune diabetes was significantly lower in the milk-free group compared to those having milk in their diet.

Other observations on the possible role of CMPs in the development of T1D was a study from Denmark, published in 1984 and showing that breast feeding protected against T1D compared to CMP-based infant formulas. An interesting observation was published in 1988 by Professor Erkki Savilahti and coworkers from the Children's Hospital, University of Helsinki, Helsinki, Finland showing that children with newly diagnosed T1D had elevated levels of serum cow milk antibodies, whereas the levels were normal in a group with a 5-year duration of T1D. Some immunological aberration was thus there at the time of diagnosis.

In order to learn more about the possible role of CMPs in the development of T1D in children, we started in 1988 to discuss the possibility to carry out a nutritional intervention study in Finland. Professor Julio M. Martin from Toronto, one of the two fathers of the cow milk and T1D hypothesis, spent a period as a visiting professor in Finland during the years 1988-89. We negotiated with the chairmen of the University Departments of Pediatrics and senior investigators about the possibility to perform a small pilot study in Finland to find out whether pregnant women with T1D would be willing to participate in a dietary intervention study: after exclusive breast feeding about half of the infants would receive a hydrolysed formula (which prevents diabetes in BB rats), whereas the control infants would receive regular, CMP-based baby formula. We did the first pilot study in 1992-93, and based on positive experiences we carried out a larger second pilot study in 1995-97. This latter study had 242 newborn infants, whose father, mother or sibling was affected by T1D, and the cord blood HLA-typing showed the infant to have an increased genetic risk of T1D. The children were mainly from 15 hospitals in Finland, and a few were from Estonia and Sweden. The results of the second pilot study indicated that the dietary intervention implemented could possibly reduce the frequency of autoimmune markers of T1D. We stated, however, that this observation did not yet justify recommending changes in infant feeding practices, but instead we would need to carry out a large scale, sufficiently powered multinational study to get a definite answer to the question whether weaning to a highly hydrolysed formula reduces the subsequent risk of T1D..



The experiences from the pilot studies have greatly helped us in planning the study protocol for the study proper. We have for instance considered the mothers' request to minimize waiting times at visits to the study center, and also otherwise various steps were planned to make the visits as comfortable as possible for the child and family. We expanded the international network, and we received in 2001 a grant from the Na-

tional Institutes of Health, USA enabling us to start in 2002 the study proper in 15 countries on three continents. Also the Canadian Institutes of Health Research, European Commission and European Foundation for Diabetes Research, and national agencies in a few countries have supported us. We are grateful to Mead & Johnson Internationals for providing us study formulas free of charge. The study comprises 2160 children, who are followed until the age of 10 years. The study has progressed well, and the dietary intervention, which was implemented until the age of 6-8 months, has been completed in all children. Canada, which has had an important role since the start of the TRIGR project (Professors Julio M. Martin and Hans-Michael Dosch and many others) has the largest number of study subjects, followed by Finland and USA. We are happy of the positive attitude of the families to join the study and adhere to it, and we try to find various ways to help the families to stay with us during the whole follow-up period. After the results are known in the next decade we will have the answer to the important question on the role of CMPs in T1D.

INFANT COMPLEMENTARY FEEDING IN TRIGR -COUNTRIES

Infant feeding recommendations are very similar around the world, but children's feeding practices vary between countries, which is not surprising considering the cultural differences in food habits across countries.

Exclusive breastfeeding is recommended worldwide for infants during the first 6 months of life based on scientific evidence of health benefits in breastfed infants and their mothers. When breast milk is no longer enough to meet the nutritional needs of the infant, complementary foods should be added to the baby's diet at the latest by the age of 6 months.. Single-ingredient foods are usually recommended to be introduced first, with no more than one started at weekly intervals to permit identification of any intolerance. WHO recommends that infants start receiving complementary foods at 6 months of age in addition to breast milk, initially 2-3 times a day between 6-8 months, increasing to 3-4 times daily between 9-11 months and between 12-24 months by adding nutritious snacks, such as a piece of fruit or bread.

We analyzed infant feeding patterns among babies participating in TRIGR. There are 2160 participants in the study from 15 countries. TRIGR data from all over the world shows that there are cultural differences in babies' food habits. In the TRIGR study complementary feeding was started by the age of 5 months. First foods given to babies were fruits, vegetables and cereals (Figure1).

In European countries, fruit and vegetable purées were usually the first foods given to babies, while in North America the first tastes were infant cereals. In Northern Europe complementary feeding was started early, at the age of 5 months nearly 80% of the infants received vegetables, fruits or berries daily. In Australia complementary feeding was started later than in other TRIGR regions (Figure 2.). In Canada 64%, in the US 48% and in Southern Europe 61% of the infants receive cereals daily at the age of 5 months (Figure 2.). At the age 5 months in Northern Europe (Finland and Sweden) 78% of infants received vegetables and 48% received cereals daily, whereas in Australia 16% received vegetables and 32% received cereals at that age.

The TRIGR babies in Australia and in North America started to receive meat later than in Europe, in Australia at the age of 5 months only 1% of the infants had received meat. In all the TRIGR regions fish was introduced later than meat.

Figure 1. Complementary foods used in TRIGR at different ages.

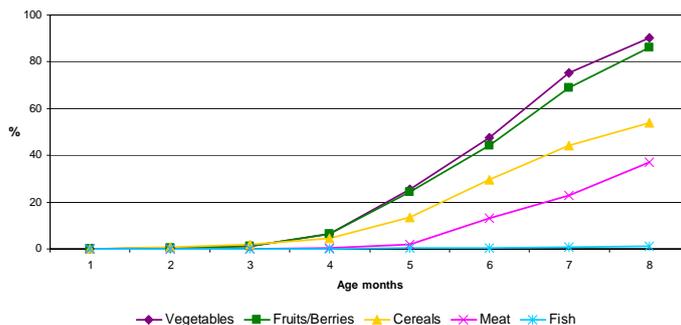
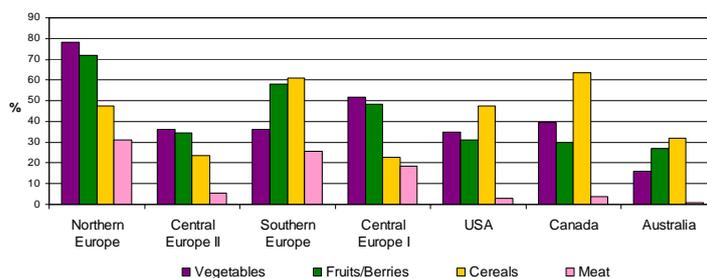


Figure 2. Proportion of daily users of different complementary foods at the age of 5 months in TRIGR regions.



Northern Europe: Finland, Sweden
 Central Europe I: Czech Republic, Estonia, Hungary, Poland (transition economies)
 Central Europe II: Germany, Luxembourg, Netherlands, Switzerland
 Southern Europe: Italy, Spain

Susa Sorkio, Nutrition fellow

Christmas is coming ...

Christmas is a universal festival. The Christmas habits differ quite a lot between various countries. We asked our TRIGR – study coordinators to describe their Christmas traditions..

Christmas in Germany

Some people claim that Advent season is the most beautiful time during the year in Germany. Advent starts 4 weeks before Christmas Eve 24th December. Every Sunday a candle will be lit on an Advent crown made from fir, and when all four candles are lit, the children know that Christmas is here and the festivities will really start!.



On the morning of Christmas Eve the Christmas tree is decorated with glass baubles, straw stars, tinsel, fairy lights or candles. In the evening the whole family dresses in festive clothes and meets each other for a traditional dinner, attend Church together and enjoy music together.

Christmas in Sweden

The highlight of the evening is a visit from Santa Claus with his sledge. Some believe it is the Christ Child who visits. During Advent children practice Christmas poems and songs, which they recite to Santa Claus in order to really receive their presents.

The family also meets with friends and enjoys a traditional festive roast of game or goose on the following 2 days of Christmas. They often make Christmas music together, play games and tell stories of time past. As Christmas passes, the festivities come to a close with the Christmas tree taken down at Epiphany.

Bärbel Aschemeier, National Coordinator

Christmas in the Czech Republic

Czech Christmas celebrations are mostly dedicated to the family and close relationships. The most important day is December 24th. Its Czech name literally means "Generous Day".

In the morning, the Christmas tree is decorated with traditional Czech Christmas ornaments and preparations are made for the most festive dinner of the year. Christmas Eve is associated with many superstitions that usually relate to life, love, and destiny that awaits one in the year to come. It is also believed to be the best time for various types of foretelling the future. According to one Czech Christmas custom, one is supposed to fast all day to see the "golden piglet" in the evening.



The Christmas dinner is served after sunset and consists of carp and potato salad, mostly preceded by mushrooms with peeled barley and fish soup. Christmas carp is specially raised in man-made ponds and then sold from large tubs placed on the streets and town squares a few days before Christmas. Some families keep their carp in the bathtub for several days as a temporary pet for their children. Dinner is finished with traditional sweet Christmas bread called vanocka, which is also served for breakfast the next day.



After dinner, the family sings Christmas carols and then move to the lit Christmas tree. By then, presents have been secretly placed under the tree. Czech children believe that Christmas gifts are brought by Baby Jesus who comes into the room through the window to leave the presents. Some families end Christmas Eve by attending the midnight mass in their local church.

Pavla Mendlova, National Coordinator

Some time before Christmas Eve you start to light a candlestick with four candles. You start with one candle and then you light one more every Sunday until all four candles are lit.

Something that is very popular to have in Sweden before and during Christmas is "glögg", mulled wine, containing alcohol or not. You can heat it up and put some raisins and almonds in it. With the "glögg" you can eat gingerbread in different shapes.



About 2 days before Christmas Eve you trim the Christmas tree with lights and decorations. On Christmas Eve, the 24th of Dec, you eat rice pudding, often in the morning, and one person will get an almond in the rice pudding, which means that he or she will get married soon.

The Swedish Santa Claus does not go down the chimney to deliver gifts in socks. Instead he visits the families in the afternoon or evening on the 24th of Dec to give the gifts.

Erika Karlsson, National Coordinator

Christmas in Spain

Christmas time is a very important and familiar event in Spain. As from November, one can already enjoy many typical symbols like Christian Nativity scenes (so-called "Belenes"), decorated Christmas trees everywhere, light performances in streets and children singing carols.

Christmas Eve in Spain is called "Nochebuena" and, like in many places all over the world is celebrated with all the family around a big table with plenty of delicious foods and Christmas desserts (marzipan, "turrón" and "polvorones"). To drink, one may have a glass of cava, which is similar to champagne. At midnight many people go to church to attend "La misa del Gallo" or "Rooster Mass". People usually stay with family on Christmas day to have another large meal and enjoy the gifts brought by Papa Noel or "Olentzero" (in the Basque Country).

New Year's Eve or "Nochevieja" is a big feast. Families and friends stay together and have a big dinner. At midnight, when the clock rings the bell, we eat "the 12 grapes of luck" (a grape with each bell strike) and a cup of cava for having prosperity in the New Year.

On January 5 evening children go to the "cabalgatas" which are representations of the Epiphany of the Three Wise Men arriving in the city. Later, before going to bed, children leave their shoes out in a visible spot in the house hoping to get gifts from the Kings. On the next morning, we have for breakfast a typical dessert called "Roscón de los Reyes", a large ring shaped cake decorated with candied fruits. Somewhere inside the cake there is a surprise.

Teba Gonzales, National Coordinator

Christmas in Canada

Canada is a country made up of an extremely diverse population spread over thousands of miles. By mid-December the temperatures have turned colder and much of the country is under a blanket of snow. Canadian families follow many different religions and have varied traditions over the holiday season.

By early December families have started to decorate their houses inside and out! Streets come alive with festive decorations and lights. Homes become warm, cozy and inviting for families and guests. Family outings to cut down a Christmas tree on a bright cold sunny winter day are often topped off with a cup of warm apple cider. The trees are brought home and decorated with lights and decorations. Many children make garlands and various decorations for their tree. On December 24th, imaginations are alive as wide-eyed children excited for the arrival of Santa Clause, hang Christmas stockings by the fireplace, leave out cookies and milk for Santa and of course carrots for the reindeer, and then try hard to fall asleep so Santa Clause will come. Children wake up to presents and families get together for a traditional turkey dinner. Some families go to a church service at midnight while others go on Christmas Morning. Over the holidays schools are closed for 2 weeks and children play in the snow, skate, ski or snowshoe taking advantage of the wonderful snowy weather coming home with rosy cheeks!

Brenda Bradley, National Coordinator

Christmas in the Netherlands

Ai, that's a very difficult question.....Something typical Dutch in the Netherlands with Christmas.

Yes, we have a Christmas tree inside the house or in the garden...

Yes, we'll go to church...

Yes, we'll have dinner with friends and family...

No, unfortunately we hardly ever have snow and ice...

No, in the Netherlands it is not common to give each other presents at Christmas time...

And no, Christmas isn't that big in The Netherlands

But.... we've another Public Holiday which we celebrate. December 5th. At that particular day another type of Santa Claus, called in Dutch Sinterklaas, celebrates his birthday. At the birthday of Sinterklaas he'll give presents to the children. Half way November he arrives together with a lot of assistants, we call zwarte pieten, by boat from Spain.

Sinterklaas and his "pieten", stay a few weeks in the country. They visit schools, companies, shopping malls etc etc. Children will sing Sinterklaas songs at bedtime, placing a shoe in front of the fireplace and put some food in the shoe for the horse, like carrots. And drawings for Sinterklaas. During nighttime, Sinterklaas and his zwarte pieten, will be walking over the roofs of the houses and will throw presents through the chimney, in the shoes.



On December 5th families and friends will come together and celebrate this Sinterklaas feast. All presents will arrive in a big bag left behind at the most strange places you'll think of. When they'll be found, they will be put together in the middle and be given one by one. (names add on it). Some presents come with a (dirty) surprise packet, some with a poem.



And then, out of the blue, Sinterklaas has disappeared. Till next year, nobody knows where he is and where he went ...

Margriet Bisschoff, National Coordinator



Christmas in Finland

Families start to prepare their Christmas in early December. Christmas is the most important feast day of the year for many Finns.

Christmas tree, that's usually fir, is decorated at the latest on Christmas Eve. Christmas Peace is traditionally declared at noon from Turku's Old Great Square (Turku is the oldest town in Finland). Christmas Peace was declared as early as in the 1320's. Since then, the tradition has continued uninterrupted. Families enjoy together a dinner, which traditionally comprises ham, escalloped potatoes, carrot casserole, swede purée, salmon, traditional vegetable salad, rice pudding, dried fruit fool. There are several distinctions between provinces. On islands the principal meal may consist of northern pike and in Lapland reindeer. Nowadays, turkey is more often served than previously. Many families visit cemeteries in Christmas Eve. In the evening families go to sauna and Santa Claus makes his visit..

Santa Claus knocks on the door, enters and says:" Are there any good children here?" He gives gifts to every one who has been good enough. Santa Claus lives far, far away in the north, in Finnish Lapland on a mysterious mountain called Korvatunturi. He travels with a sledge drawn by reindeers. Finns go to a church service early in the morning on the Christmas Day or in the evening on the Christmas.



Carols and candles contribute to the feeling of Christmas. Finland is usually under a blanket of snow. Home and trees of home yards are decorated with lights. Finnish Christmas traditions keep their glitter year by year.

Päivi Kleemola, Nutrition fellow