
PO830**RESTORATION OF BRAIN DHA LEVELS IN YOUNG-DEFICIENT RAT IS BETTER WITH 1.5%ALA DAIRY FAT BLEND COMPARED TO 1.5% ALA VEGETABLE BLEND**

B. Delplanque¹, Q. Du², J.C. Martin², P. Le Ruyet³

¹NMPA, CNPS, Universite-Paris-Sud, Orsay, France

²INRA1260/Inserm1025, Fac de Medecine de la Timone, Marseille, France

³Lactalis, R&D, 8 Fromy, Retiers, France

Background and objectives: Achieving an appropriate docosahexaenoic-acid (DHA) status in the neonatal brain is an important goal of neonatal nutrition. Infant formulas have been gradually replacing mother's milk and are usually prepared with vegetable oils. The essential fatty acids (EFA) composition of these formulas are controlled (ALA, LA) and DHA supplementation has been more recently proposed to mimic mother-milk. In an attempt to validate the potential replacement of vegetable fat with dairy fat in infant formulas, we used the brain DHA level of rats as a nutritional model to compare the effects of blends based on dairy fat instead of palm oil providing the same EFA quantities (commonly recommended values for commercial vegetable fat formulas: 1.5% and 16%, respectively).

Methods: Three groups of rats (10 males and 10 females), born from dams fed over gestation/lactation with a low ALA-diet (0.4% FA), were fed, for 6 weeks after weaning, diets providing similar levels of ALA (1.5%, from rapeseed source), blended with (i) anhydrous dairy fat, (ii) palm oil or (iii) palm oil supplemented with DHA (0.12%). Brain FA were determined by gas chromatography at weaning and after the post-weaning diets

Results: Restoration of brain DHA levels was superior with the 1.5% ALA-dairy-fat compared to both 1.5% ALA-palm-blends (without/with DHA supplementation) for increasing brain DHA (+80%, +65% and +60%, respectively $p<0.001$). A gender/diet interaction showed lower levels of brain DHA of males with the 1.5% ALA-palm diet, while brain DHA was similarly restored in males and females by the 1.5% ALA-dairy-fat diet or by DHA supplementation of palm diet

Conclusions: Restoration of brain DHA levels of young deficient rats is more efficient with a 1.5% ALA dairy fat blend diet compared to vegetable blends despite similar dietary ALA levels supplemented or not with DHA. Human application for infant formulas should be considered. Granted by Lactalis

Key words: dairy-fat, brain, DHA, ALA

PO831**CHALLENGES OF A COMMUNITY-BASED PEER COUNSELLING PROGRAMME TO PROMOTE AND SUPPORT APPROPRIATE COMPLEMENTARY FEEDING IN BANGLADESH**

R. Haider¹

¹Training & Assistance For Health & Nutrition (TAHN) Foundation, Dhaka, Bangladesh

Background and objectives: Although several programmes have promoted exclusive breastfeeding, there are very few which have promoted and monitored appropriate complementary feeding. In the Foundation's programme areas, community-based peer counsellors have been successfully promoting and supporting exclusive breastfeeding since 1995. To ensure that they also promote appropriate complementary feeding, monitoring visits were undertaken.

Methods: Five community-based peer counsellors in urban Dhaka (Badda) and 7 in rural Chittagong (Anowara) counselled mothers for appropriate complementary feeding when babies completed six months and monthly until 18 months. Each peer counsellor was responsible for 50-60 mothers living in her neighbourhood. From February to December 2012, 541 mothers were counselled. Programme staff planned to monitor 10% of PCs visits and randomly interview 10% of counselled mothers by using check lists. Data from observations and interviews were analysed and feedback given to the peer counsellors for improving performance.

Results: Comparisons of observations of peer counsellors visits (n=102) and from mothers' interviews (n=92) showed that nearly all the mothers received information about appropriate complementary feeding practices and were demonstrated correct amounts and consistency at end of 6 months. However 50% mothers reported they were not shown recommended consistency of foods at 9 and 12 months. During observations, intake of 4 food groups was encouraged, benefits of each food with age appropriate frequency and consistency mentioned, but actual amounts were shown in 69% of visits, and only about half the mothers could recall the benefits of each group of complementary food. Washing mothers' hands before preparation of food and feeding was mentioned, but not observed by the peer counsellors.

Conclusions: Frequent monitoring of peer counsellors' visits and comparisons with mothers reports about what they have been told and demonstrated, are essential to ensure good quality counselling and complementary feeding practices.

Key words: complementary feeding, monitoring, peer counsellors