Title: Eggs as a source of essential Docosahexaenoic Acid (DHA) - In the diets of Weaning Infants
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Summary

Probably the two biggest nutritional risks for normal infants in our society are deficiencies in Docosahexaenoic Acid (DHA) and iron, and both can be supplied by egg yolk. However, eggs have a poor public image largely because they are perceived to be associated with the risk of elevated cholesterol and egg-induced allergy. The concerns persist about the use of eggs as a suitable food for babies (in the weaning diet) despite the known nutritional value and digestibility of egg yolks and the fact that egg yolks appear in the list of recommended foods for infants for the second 6 months of life.

Recent infant weaning practices have resulted in a trend towards the use of inappropriate foods. For example, adult cereals are generally low in iron and protein. Canned baby foods are also generally low in iron, have a very smooth texture and are virtually devoid of long chain polyunsaturated fatty acids (LCPUFA).

This study tested the nutritional efficacy of egg yolks as a source of DHA and iron in the diets of Australian infants and examined issues of safety with regard to plasma cholesterol and Immunoglobulin E (IgE) levels.

The study was a partially blinded, randomised, outpatient study conducted in 161 healthy 6-12 month old infants (82 breast fed and 79 formula fed). Following consent, breast or formula fed infants were randomised to receive either no dietary intervention, four regular egg yolks per week or four omega-3 enriched (NewStart) egg yolks per week. Mothers were supplied with the eggs and given specific instructions about their preparation and were encouraged to incorporate them into custards, vegetables and foods the child was already consuming in order not to affect the rest of the weaning diet.

The study concluded that egg yolks are a safe and nutritious weaning food. It demonstrated that including four egg yolks per week in the diet of infants can have nutritional benefits and are not associated with health risks, such as raised cholesterol or an increased incidence of allergy.

Of 161 infants recruited, 137 successfully completed the trial representing an 85% follow-up of all infants enrolled (70 breast fed and 67 formula fed). A high degree of confidence can be placed in the trial results because of the high completion rate.

A major finding of the current study was that formula fed infants who consumed four omega-3 egg yolks per week had DHA levels in their blood cells similar to control breast fed infants.

Keywords: Docosahexaenoic Acid (DHA), nutrition, egg yolk.