Alexander et al., Growth of infants consuming whey-predominant term infant formulas with a protein content of 1.8 g/100 kcal: a multicenter pooled analysis of individual participant data. Am J Clin Nutr doi: 10.3945/ajcn.116.130633

Alexander Meta-Analysis

- About the paper:

- Objective:
  - The study evaluated the growth of infants fed a whey-predominant, lower protein infant formula - 1.8g/100kcal (1.25g/100ml) (closer to breast milk and lower than standard infant formulas) with or without active ingredients, and the growth of breastfed infants, by comparing the anthropometric Z-scores at 4 months against the 2006 WHO growth standards.
  - Primary outcome was Weight for age Z-scores at age 4 months compared to the WHO growth standards.

- Why it’s important:
  - Childhood obesity is a growing global health priority and lowering the protein content of infant formula so that it is closer to breast milk may reduce long term risk of obesity/overweight in formula fed infants.

- Method:
  - Meta-analysis of individual participant data from 11 RCTs carried out in 6 countries (Australia, France, Italy, Greece, China and South Africa)
  - 1882 healthy term infants
  - At the age of 4 months, Z-scores were measured and compared with WHO growth standards:
    - Weight-for-age
    - Length-for-age
    - Head circumference-for-age
    - Body Mass Index (BMI)-for-age

Feeding groups:
1. Lower protein formula n = 737
2. Lower protein formula with active ingredients (probiotics, prebiotics or both) n = 965
3. Breastfed infants n = 180

- Key takeaways (results):
  - At the age of 4 months, anthropometric Z-scores were within +/− 0.5 Standard Deviation of WHO growth standards for lower protein formula (with or without active ingredients).
  - In summary, infants fed lower protein infant formula (1.8 g protein/100 kcal; 1.25g/100ml) with a high quality protein (with or without active ingredients), demonstrated a healthy growth pattern comparable to the WHO Child Growth Standards and to that of breastfed infants.
IMPORTANT NOTICE: The World Health Organisation (WHO) has recommended that pregnant women and new mothers be informed on the benefits and superiority of breastfeeding – in particular the fact that it provides the best nutrition and protection from illness for babies. Mothers should be given guidance on the preparation for, and maintenance of, lactation, with special emphasis on the importance of a well-balanced diet both during pregnancy and after delivery. Unnecessary introduction of partial bottle-feeding or other foods and drinks should be discouraged since it will have a negative effect on breastfeeding. Similarly, mothers should be warned of the difficulty of reversing a decision not to breastfeed. Before advising a mother to use an infant formula, she should be advised of the social and financial implications of her decision: for example, if a baby is exclusively bottle-fed, more than one can (400 g) per week will be needed, so the family circumstances and costs should be kept in mind. Mothers should be reminded that breast milk is not only the best, but also the most economical food for babies. If a decision to use an infant formula is taken, it is important to give instructions on correct preparation methods, emphasising that unboiled water, unsterilised bottles or incorrect dilution can all lead to illness.