

UNIVERSITY OF TURKU
Faculty of Medicine

PÖYSTI, EMMA: Longitudinal associations of breastfeeding duration with BMI and serum lipid values until 20 years of age --- the STRIP study

Advanced special studies, 23 pages, 4 supplementary pages
Pediatrics
April 2017

Objective: Breastfed infants show higher serum cholesterol concentrations than formula-fed during first months of life. While high serum cholesterol concentrations are major risk factors for atherosclerotic cardiovascular disease, the effects of breastfeeding duration on cholesterol values and adiposity in later life have remained controversial. We studied long-term associations of breastfeeding duration with future BMI and serum lipid concentrations in healthy subjects.

Study design: In prospective STRIP study (Special Turku coronary Risk factor Intervention Project) 1062 study participants' weights and heights were measured and serum cholesterol, HDL-cholesterol, non-HDL (or LDL) -cholesterol and triglyceride concentrations were analyzed at ages 7 and 13 months, and annually thereafter until age 20 years. Data on breastfeeding duration were obtained during the first visits and groups based on different breastfeeding duration were formed and breastfeeding was used also as a continuous variable.

Results: There was no difference in BMI from 8 months to 20 years of age between the 4 groups with different duration of breastfeeding ($P=0.99$). At the age of 7 months infants who still received breast milk had higher serum total cholesterol values (4.33 ± 0.80 mmol/L) than formula-fed (3.91 ± 0.69 mmol/L; $P<0.001$) but this association disappeared soon after weaning. From 2 to 20 years of age serum cholesterol concentrations showed no consistent differences between different breast feeding duration groups.

Conclusion: our long-term data showed that duration of breastfeeding has no linear association with BMI or serum lipid concentrations in healthy subjects aged 2 to 20 years.

Keywords: breastfeeding, cholesterol, lipids, childhood