

child growth standards should be evaluated further before their adoption in the Czech Republic and other countries with local growth references.

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DIETARY FATTY ACID COMPOSITION DURING PREGNANCY AND RISK OF ASTHMA IN THE OFFSPRING

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Background: Epidemiological studies suggest that the increasing frequency of asthma and allergic diseases are in part related to changes in dietary habits. More margarines and vegetable oils are consumed, while the reverse is true for oily fish and fish-products, leading to an increase in the intake of n-6 polyunsaturated fatty acids (PUFA) and decrease in the intake of n-3 PUFA. Fatty acids (FA) modulate the immune system and have been proposed to affect the incidence of IgE-mediated allergic diseases. We explored the association of dietary FA composition during pregnancy with the risk of asthma in the offspring.

Methods: Dietary intake was assessed by a validated 181-item food frequency questionnaire covering the 8th month of pregnancy. The occurrence of asthma was assessed at the age of 5 years with a questionnaire modified from International Study of Asthma and Allergies in Childhood (ISAAC). Logistic regression was used for statistical analyses.

Results: Lower maternal intake of α -linoleic acid (18:3n-3), linoleic acid (18:2n-6), n-6-PUFA, n-3-PUFA and total PUFA during pregnancy were associated with an increased risk of asthma in the offspring. The ratios of n-6 to n-3-PUFA and 18:2n-6 to 18:2n-3 and the maternal intake of oils, fish and fish products were not associated with the risk of asthma.

Conclusion: In the present study, higher intakes of PUFA, n-3-PUFA and 18:3n-3 during pregnancy were protective against asthma in the offspring. The finding that higher intake of total n-6-PUFA and 18:2n-6 also protects against asthma does not support the original lipid hypothesis.

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PECULIARITIES IN FATTY ACIDS PROFILE IN CHILDREN WITH FOOD ALLERGY

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Elimination diet (ED) in children with food allergy (FA) could be responsible of inadequate caloric and essential fatty acids (EFA) intake. We investigated the plasmatic profile of EFA in children with FA on ED. Methods. Prospective multicenter study including children with FA (6-36 m) on ED for at least 30 days compared to healthy children. EFA were measured by capillary gas-chromatography at the enrolment (T0) and after 6 m (T1) of elimination diet established after specific dietary counseling. Results. We enrolled 86 children with FA, and 66 healthy controls. The length of ED diet was 10.8 m (95%CI 8-14 m). Table reports EFA profiles in

study groups (*p< .05 controls vs FA at T0; °p< 0.5 FA at T0 vs FA at T1). Conclusions. ED in children with FA determine an EFA deficiency, in particular for polyunsaturated fatty acids, despite a specific nutritional intervention decided after nutritional counseling.

	Healthy controls	FA patients T0	FA patients T1
Saturated	34(33-37)	33(32-36)	35(31-36)°
Monoun-saturated	22(20-23)	28(27-33)*	30(29-32)
Polyun-saturated	42(40-43)	37(35-38)*	34(31-35)°
18:2n-6	30(29-31)	25(24-28)*	23(21-24)°
20:3n-6	1.6(1.4-2.0)	1.2(1.0-1.7)*	1.4(1.3-1.9)°
20:4n-6	6.9(5.7-7.2)	5.7(5.4-6.3)*	6.4(5.0-7.1)
18:3n-3	0.28(0.22-0.36)	0.33(0.22-0.40)	0.24(0.19-0.36)°
20:5n-3	0.27(0.16-0.32)	0.28(0.19-0.40)	0.26(0.13-0.46)
22:6n-3	1.5(1.2-1.8)	1.5(1.2-1.9)	1.3(1.0-1.4)°

[Table]

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CURRENT PRACTICE OF BREAST MILK FORTIFIER AND SUPPLEMENTS IN NEONATAL UNITS ACROSS ENGLAND

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Background: Preterm infants, especially those with intrauterine growth restriction, have considerably higher nutrient requirements. Research shows that multi-nutrient fortifiers are beneficial in promoting growth. Currently there are no national guidelines on the use of supplementation, with many neonatal units (NNUs) setting their own standards.

Objective: To carry out a survey on sub-regional NNUs across England, looking at current practice in the use of breast milk fortifier and nutrient supplements.

Method: Single operator completed a standardised telephonic questionnaire across 40 NNUs. Ten questions were asked, each with a single option answer, relating to the use of breast milk fortifier and supplements.

Results: The majority (95%) of neonatal units did not routinely use breast milk fortifier for exclusively breast fed neonates. Of these, 92% only added breast milk fortifier if the infant was not gaining weight. 23% of hospitals continued to use breast milk fortifier even if the infants were on a 50:50 mix of breast milk with formula feeds. 50% of NNUs offered iron supplements if the infant was below 34 weeks gestation. 78% of NNUs began iron at day 28 of life. Although all NNUs used multivitamins, only 22% of hospitals routinely used folic acid supplementation. Over 50% of NNU did not use iron, folic acid or multivitamins if the infant was on exclusive formula feeds.

Conclusion: Despite being a universal tradition, results demonstrate variable practice among NNUs across England. Current use of anecdotal evidence and best guess recommendations highlights the need for collaborative multinational research to produce standardised guidelines.

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THE ROLE OF HYPERGLYCEMIA ON NEURODEVELOPMENTAL OUTCOME IN INFANTS OPERATED FOR CONGENITAL HEART DISEASE WITH OPEN-HEART SURGERY

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Background: It is unclear whether hyperglycemia after infant cardiac surgery adversely affects neurodevelopmental outcome.

Methods: Secondary analysis of a prospective cohort study on neurodevelopmental outcome after infant cardiac surgery. Exclusion criteria were: older than one year of age at first surgery, genetic disorders or dysmorphic syndromes and birth weight < 2000 grams and postoperative death. Of 368 children, 172 met inclusion criteria. Ten children did not yet return for the one year follow up examination and two were lost to follow-up. Follow-up examination at four years was available for 56 children, the