primary studies - published RCT

Energy supplements rich in linoleic acid improve body weight and essential fatty acid status of cystic fibrosis patients.

Code: PM11045840 **Year:** 2000 **Date:** 2000 **Author:** Steinkamp G

Study design (if review, criteria of inclusion for studies)

RCT

Participants

36 patients (16 girls) more than 4 years of age. control group (n = 20, age 13.3 +/- 3.8 years, mean +/- SD). intervention group (n = 16, age, 10.4 +/- 4.3 years)

Interventions

control group receiving intensive dietary counseling only, or an intervention group treated for 3 months with dietary counseling plus 628 +/- 254 mL (= kcal) per day of an energy supplement rich in fat (31% of energy) and linoleic acid (16% of energy).

Outcome measures

energy intake, weight for height, body fat, plasma phospholipid linoleic acid, arachidonic acid

Main results

In contrast to the control group, the patients with supplemented diets achieved significant increases of energy intake (2189 +/- 731 kcal/day vs. 2733 +/- 762 kcal/day), weight for height (82.8% +/- 8.6% vs. 84.8% +/- 9.6% of normal), and body fat (5.1 +/- 1.7 kg vs. 5.8 +/- 2.2 kg) as well as the initially low values of plasma phospholipid linoleic acid (11.8% +/- 1.1% vs. 17.6% +/- 1.6% of total phospholipid fatty acids) and its main metabolite arachidonic acid (4.4% +/- 0.4% vs. 5.9% +/- 0.3%).

Authors' conclusions

Patients with cystic fibrosis with low body weight and poor EFA status benefit from EFA-rich energy supplements and can synthesize arachidonic acid from the precursor linoleic acid.

http://dx.doi.org/10.1097/00005176-200010000-00016

See also

J Pediatr Gastroenterol Nutr. 2000 Oct;31(4):418-23.

Keywords

Adolescent; Caloric Intake; Child; essential fatty acids; linoleic acid; non pharmacological intervention - diet; Supplementation; Counseling; Psychoeducation; non pharmacological intervention - psyco-soc-edu-org; omega-6;