

primary studies - published RCT

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

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### 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.

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### 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 - psycho-soc-edu-org; omega-6;