Cochrane Database of Systematic Reviews - - Cochrane Review

Oral calorie supplements for cystic fibrosis

Code: CD000406 **Year:** 2017 **Date:** 2009 - updated: 18 OCT 2016 **Author:** Smyth Rosalind L

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

Randomised or quasi-randomised controlled trials comparing use of oral calorie supplements for at least one month to increase calorie intake with no specific intervention or additional nutritional advice in people with CF.

List of included studies (3)

Hanning 1993; Kalnins 2005; Poustie 2006

Participants

Children and adults with defined CF, diagnosed clinically and by sweat or genetic testing, including all ages and all degrees of severity, including severity of undernutrition.

Interventions

Oral calorie supplements

Outcome measures

Change in activity (% 24 hours); Change in BMI (kg/m2); Change in BMI centile (percentile points); Change in FEV1 (% predicted); Change in FVC (% predicted); Change in height (cm); Change in height centile (percentile points); Change in Kcal/day from supplement; Change in mid-upper arm circumference (cm); Change in total fat (g)/day; Change in total Kcal/day; Change in total protein (g)/day; Change in weight (kg); Change in weight centile (percentile points); Change in weight for height (percentage)

Main results

21 trials identified, 3 included, reporting results from 131 participants lasting between three months and one year. Two trials compared supplements to additional nutritional advice and one to no intervention. Two of the included trials recruited only children. In one trial the risk of bias was low across all domains, in a second trial the risk of bias was largely unclear and in the third mainly low. Blinding of participants was unclear in two of the trials. Also, in one trial the clinical condition of groups appeared to be unevenly balanced at baseline and in another trial there were concerns surrounding allocation concealment. There were no significant differences between people receiving supplements or dietary advice alone for change in weight, height, body mass index, z score or other indices of nutrition or growth. Changes in weight (kg) at three, six and 12 months respectively were: mean difference (MD) 0.32 (95% confidence interval (CI) -0.09 to 0.72); MD 0.47 (95% CI -0.07 to 1.02); and MD 0.16 (-0.68 to 1.00). Total calorie intake was greater in people taking supplements at 12 months, MD 265.70 (95% CI 42.94 to 488.46). There were no significant differences between the groups for anthropometric measures of body composition, lung function, gastro-intestinal adverse effects or activity levels. Moderate quality evidence exists for the outcomes of changes in weight and height and low quality evidence exists for the outcomes of change in total calories, total fat and total protein intake as results are applicable only to children between the ages of 2 and 15 years and many post-treatment diet diaries were not returned. Evidence for the rate of adverse events in the treatment groups was extremely limited and judged to be of very low quality.

Authors' conclusions

Oral calorie supplements do not confer any additional benefit in the nutritional management of moderately malnourished children with cystic fibrosis over and above the use of dietary advice and monitoring alone. While nutritional supplements may be used, they should not be regarded as essential. Further randomised controlled trials are needed to establish the role of short-term oral protein energy supplements in people with cystic fibrosis and acute weight loss and also for the long-term nutritional management of adults with cystic fibrosis or advanced lung disease, or both.

http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD000406.pub5/abstract

See also

Smyth RL, Rayner O. Oral calorie supplements for cystic fibrosis. Cochrane Database of Systematic Reviews 2017, Issue 5. Art. No.:

CD000406. DOI:0.1002/14651858.CD000406.pub5.

Keywords

Adult; Caloric Intake; Child; non pharmacological intervention - diet; Nutrition Disorders; Oral; Supplementation; Malnutrition;