

Review: Advice on low-fat diets is not better than other weight-reducing diets for sustaining weight loss in obesity

Pirozzo S, Summerbell C, Cameron C, Glasziou P. **Advice on low-fat diets for obesity.** *Cochrane Database Syst Rev.* 2002;(2):CD003640 (latest version 25 Feb 2002).

QUESTION

In persons who are overweight or clinically obese and who are dieting for the purpose of weight reduction, is advice on low-fat diets more effective than other weight-reducing diets for achieving sustained weight loss?

DATA SOURCES

Studies were identified by searching the Cochrane Library, MEDLINE (up to February 2002), EMBASE/Excerpta Medica (up to February 2002), Science Citation Index (up to January 2001), and by reviewing bibliographies of relevant articles.

STUDY SELECTION

Studies were selected if they were randomized controlled trials (RCTs) with ≥ 6 -month follow-up that compared advice on low-fat diets (treatment group) with other weight-reducing diets (control group), the primary purpose of the study was weight loss, and participants were adults (≥ 18 y of age) who were overweight or obese (body mass index > 25 kg/m²) at baseline. RCTs including pregnant women or patients with serious medical conditions were excluded.

DATA EXTRACTION

3 reviewers independently extracted data on study design, study setting, sample size,

patient inclusion and exclusion criteria, participant demographics, key components of the interventions, and outcomes. The primary outcomes included weight loss and body mass index.

MAIN RESULTS

6 RCTs (594 participants, 92% women) met the selection criteria. Comparisons of dietary interventions included low fat with low calorie, fixed calorie low fat with fixed calorie low carbohydrate, low fat ad libitum with low calorie, fixed calorie low fat with fixed calorie moderate fat, and fixed calorie low fat with fixed calorie. Meta-analyses were done using random-effects models. The groups did not

differ for weight loss or body mass index at 6 or 12 months (Table). At 18 months, reduction in body mass index was less in the low-fat diet than in the other diets, but the groups did not differ for weight loss (Table).

CONCLUSION

In persons who are overweight or clinically obese and who are dieting for the purpose of weight reduction, advice on low-fat diets is not better than other weight-reducing diets for achieving sustained weight loss.

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Advice on low-fat diets vs other weight-reducing diets in overweight or clinically obese persons at 6, 12, and 18 months*

Outcomes	Follow-up (mo)	Number of trials	Weighted mean difference (95% CI)
Weight loss (kg)	6	4	1.7 (−1.4 to 4.8)
	12	5	1.1 (−1.6 to 3.8)
	18	3	3.7 (−1.8 to 9.2)
Body mass index (kg/m ²)	6	4	0.7 (−0.6 to 2.0)
	12	3	1.2 (−0.7 to 3.0)
	18	2	2.4 (1.5 to 3.3)†

*CI defined in Glossary.

†Statistically significant in favor of other weight-reducing diets (control group).

COMMENTARY

Reversing the process of obesity requires a sustained reduction of total caloric intake to a level less than daily caloric expenditure over a lengthy period. Successful achievement of reduced body weight would ideally be measured over the succeeding lifetime of a person. Sufficiently lowering the intake of fat in the diet is one way to accomplish the objective of decreasing caloric intake. If the advice of adhering to a low-fat diet indeed works better than other weight-reducing diets, such news would be welcome to both patients and clinicians.

Because of the short duration of follow-up in the RCTs (6 to 18 mo), the review by Pirozzo and colleagues pertains to the issue of initiating weight loss rather than documenting sustained weight loss.

The fact that none of the selected RCTs were found to show substantial weight loss or differences between study and control groups

implies that either the studies were not powerful enough to measure smaller (and therefore clinically insignificant) weight changes or that they were flawed with respect to study methods. Blinding of outcome assessors, longer-term and complete follow-up, and use of the intention-to-treat principle would improve the quality of primary RCTs and potentially that of the conclusions drawn from the corresponding reviews like this one.

One can only conclude that attempting to initiate weight loss as reflected in a limited set of RCTs by advising a low-fat diet is no better or worse than recommending other selected weight-reducing diets. None of the dietary recommendations seem to have been successful.

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