

Re: Low-carb and Mediterranean diets better than low-fat diet for weight loss

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- *From:* Matti Narkia <mna@xxxxxxxx>
 - *Date:* Sun, 20 Jul 2008 13:33:20 +0300
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Ron Peterson wrote:

On Jul 18, 3:18 pm, Matti Narkia <m...@xxxxxxxx> wrote:

it is mentioned that the Mediterranean diet group had 2 fish meals/week. This alone should have guaranteed sufficient supply of omega-3 fatty acids.

<http://www.webmd.com/news/20000314/best-heart-benefits-from-canola-fish-oils-not-olive-oil> indicates that canola oil is a better choice than olive oil. And, I believe that the Lyon heart study also used canola oil.

Although small amounts of omega 3 fatty acids have a large benefit, I would like to know what is the optimal amount of omega 3 fatty acid intake and if fish doesn't supply that amount, doesn't it make sense to use oils like canola to make up the difference.

Long chain omega-3s EPA and DHA are needed in our metabolism for various important purposes. Whether dietary alpha-linolenic acid (ALA) has other uses for us than to serve as a precursor to EPA and DHA is still a matter a discussion. In any case the evidence about its potential benefits is weaker than the evidence for EPA and DHA. The conversion of ALA to EPA and especially to DHA in our bodies is very inefficient and even unreliable, especially in men. Therefore it has been suggested that for optimal health EPA and DHA should be obtained directly from the diet, for example from fish or fish oil, and not to rely on conversion of ALA to EPA and DHA. As for the amounts see for example the following excerpt from the review article

Gebauer SK, Psota TL, Harris WS, Kris-Etherton PM.
n-3 fatty acid dietary recommendations and food sources to achieve essentiality and cardiovascular benefits.
Am J Clin Nutr. 2006 Jun;83(6 Suppl):1526S-1535S. Review.

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PMID: 16841863

<http://www.ajcn.org/cgi/content/full/83/6/S1526> :

"The evidence base supports a dietary recommendation of {approx}500 mg/d of EPA and DHA for cardiovascular disease risk reduction. For treatment of existing cardiovascular disease, 1 g/d is recommended. These recommendations have been embraced by many health agencies worldwide. A dietary strategy for achieving the 500-mg/d recommendation is to consume 2 fish meals per week (preferably fatty fish). Foods enriched with EPA and DHA or fish oil supplements are a suitable alternate to achieve recommended intakes and may be necessary to achieve intakes of 1 g/d."

See also the articles

Essential Fatty Acids

<http://lpi.oregonstate.edu/infocenter/othernuts/omega3fa/>

and

Wang C, Harris WS, Chung M, Lichtenstein AH, Balk EM, Kupelnick B, Jordan HS, Lau J.

n-3 Fatty acids from fish or fish-oil supplements, but not alpha-linolenic acid, benefit cardiovascular disease outcomes in primary- and secondary-prevention studies: a systematic review. Am J Clin Nutr. 2006 Jul;84(1):5-17. Review.

PMID: 16825676

<http://www.ajcn.org/cgi/content/full/84/1/5>

Canola oil is a type of North-American rapeseed oil. I haven't seen Canola oil in those parts of Europe where I have lived and traveled, but I have seen and used a lot of rapeseed oil. Canola oil or more generally, rapeseed oil, is not "better" than olive oil, but it can be used in addition to olive oil to provide ALA which olive oil does not have. Other good sources ALA are for example flaxseed and walnuts. Olive oil's health benefits are not based only to its fatty acids, mostly monounsaturated oleic acid, but perhaps more on its unique phenolic compounds. Rapeseed oil (Canola oil) does not have the same compounds, so it cannot be used to replace olive oil, if the full benefits of olive oil are wanted, but it can be used to complement olive oil to provide ALA.

As for the diet of the Lyon Diet Heart Study, see the following excerpt from the article

Kris-Etherton P, Eckel RH, Howard BV, St Jeor S, Bazzarre TL; Nutrition Committee Population Science Committee and Clinical Science Committee of the American Heart Association.

AHA Science Advisory: Lyon Diet Heart Study. Benefits of a Mediterranean-style, National Cholesterol Education Program/American Heart Association Step I Dietary Pattern on Cardiovascular Disease.

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Circulation. 2001 Apr 3;103(13):1823-5.

PMID: 11282918

<<http://www.circ.ahajournals.org/cgi/content/full/103/13/1823>> :

"The Lyon Diet Heart Study, a randomized, controlled trial with free-living subjects, tested the effectiveness of a Mediterranean-type diet (consistent with the new AHA Dietary Guidelines) on composite measures of the coronary recurrence rate after a first myocardial infarction. Subjects in the experimental group were instructed by the research cardiologist and dietitian to adopt a Mediterranean-type diet that contained more bread, more root vegetables and green vegetables, more fish, fruit at least once daily, less red meat (replaced with poultry), and margarine supplied by the study to replace butter and cream. The saturated fatty acid (15% kcal) and oleic acid (48% kcal but 5.4% kcal 18:1 trans) contents in the margarine were comparable to those in olive oil, with the exception that the margarine was higher in linoleic acid (16.4% versus 8.6% kcal) and more so in {alpha}-linolenic acid (4.8% versus 0.6% kcal). Exclusive use of rapeseed oil and olive oil was recommended for salads and food preparation. Use of olive oil exclusively was not recommended because it was not acceptable as the only oil source in the diet. Wine in moderation was allowed with meals."

Nuts were also used, although the type of the nuts is not specified in this excerpt. Nuts are very fatty and good sources of unsaturated fats including omega-6s. From olive oil alone the participants of the Mediterranean diet group got 3.1 - 4.7 g omega-6s per day. Clearly there cannot have been any shortage of omega-6s in this group.

If a person is getting 10+ g of saturated fat, I would think that PUFA intake should be comparable.

Where did you get that 10 g? Are you sure you are not confusing grams with percents of energy? You were most concerned about low-fat and Mediterranean groups in the study. From

Table 2. Changes in Dietary Intake, Energy Expenditure, and Urinary Ketones during 2 Years of Intervention.

<<http://content.nejm.org/cgi/content/full/359/3/229/T2>>

you can see that they obtained in average about 9.6% of the energy from saturated fat, which is less than 10%.

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My point is that the diet study wasn't well designed because several nutrients were being varied instead of 1 or two.

I totally and profoundly disagree with you. This is a large, long term (2 years), well-designed and well-published (NEJM) study, which compared well-designed and well-known diets, not individual nutrients.

The subjects should also have been observed in more detail to get some idea of muscle loss which is common in dieting.

In that I can agree with you, but then very few similar diet studies do that.

—

Matti Narkia

<http://ma.gnolia.com/groups/Nutrition>

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