

Issue 84

Oranges and cholesterol

Arbor Clinical Nutrition Updates 2000 (Nov.);84:1
ISSN 1446-5450

For a full list of our Archives,
see www.arborcom.com/archives

NUTRITION RESEARCH REVIEW

Study: Orange juice improves lipid profiles

Drinking orange juice improves blood lipid profiles in hypercholesterolemic subjects, according to results from a recent Canadian study.

Subjects: 25 otherwise healthy men and women with elevated levels of plasma total and LDL-cholesterol and normal plasma triacylglycerol.

Method: Subjects added increasing amounts of orange juice (rising from 1 to 3 cups of 250ml each) to their diet each over a 4 week period, followed by a non-orange juice 'washout' period.

Results: Drinking 3 cups of orange juice a day (750ml) decreased the LDL-HDL cholesterol ratio by 16% ($p < 0.005$) and increased HDL-cholesterol levels by 21% ($p < 0.001$).

There was also a rise in plasma triacylglycerol by 30% ($p < 0.02$) and folate by 18% ($p < 0.01$). There was no change in homocysteine concentrations. Drinking the lower amounts of orange juice did not produce significant changes in these measures.

Ref: Kurowska EM et al. HDL-cholesterol-raising effect of orange juice in subjects with hypercholesterolemia. *Am J Clin Nutr* 2000; 72:1095-1100

Comments

The degree of improvement in lipid profile achieved in this small study is within the range that might be expected from dietary change, and is certainly one worth striving for. The rise in triglycerol is not surprising considering the dose of simple carbohydrates contained in the juice.

But an interesting question is how specific is this effect to orange juice, rather than fruit or vegetables in general?

It is known that citrus pectins when given as isolated supplements have a similar positive effect on lipid profiles¹. Whether there would be enough pectin in the juice of the orange to make a difference is not clear. A lipid lowering effect can also be achieved by the feeding of specific citrus flavanones (hesperetin and naringenin)², and this may be more relevant.

Whilst the mechanism is not yet clear, these results do support the general nutrition advice that people should eat regular servings of fruit and vegetables.

References:

1. Cerda JJ et al. The effects of grapefruit pectin on patients at risk for coronary heart disease without altering diet or lifestyle. *Clin Cardiol* 1988;11:589-94
2. Borradaile NM et al. Regulation of HepG2 cell apolipoprotein B metabolism by the citrus flavanones hesperetin and naringenin. *Lipids* 1999;34:591-8

Disclaimer, copyright and terms of use

Disclaimer, terms of use and copyright

Your use of these Updates constitutes your agreement to our disclaimer and terms of use which can be found on our web site at: <http://www.arborcom.com/disclaim3.htm>. You can also obtain the disclaimer and terms of use by emailing us at: upD@arborcom.com.

© Copyright Arbor Communications PTL 2001. All rights reserved. This publication may NOT be forwarded onto others without our written permission.

If you want to receive the Clinical Nutrition Updates on an ongoing basis, please send us a request email to upD@arborcom.com. This is a FREE service to health professionals and students. Include details of your name, email address, which country you live in, institution you are associated with (if relevant) and professional background. The Updates are available in English, Spanish, Portuguese, French, Russian and