

Is Coconut Oil Healthy?

Cynthia Libert, M.D.



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Abstract

Summary of
Conclusions

Fatty Acid Composition
of Fats and Oils

CVD Outcomes:
Randomized Clinical
Trials That Lowered
Dietary Saturated Fat

CVD Outcomes:
Prospective
Observational Studies

Dietary Pathogenesis of
Atherosclerosis in
Nonhuman Primates

LDL Cholesterol–
Mediating Dietary
Effects on CVD

Quantitative Effects of
Dietary Fats and
Carbohydrates on LDL
Cholesterol

Dietary Fats and Cardiovascular Disease: A Presidential Advisory From the American Heart Association

Frank M. Sacks, Alice H. Lichtenstein, Jason H.Y. Wu, Lawrence J. Appel, Mark A. Creager, Penny M. Kris-Etherton, Michael Miller, Eric B. Rimm, Lawrence L. Rudel, Jennifer G. Robinson, Neil J. Stone, and Linda V. Van Horn
and On behalf of the American Heart Association

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is corrected by 

[Other version\(s\) of this article](#) 

Abstract

Cardiovascular disease (CVD) is the leading global cause of death, accounting for 17.3 million deaths per year. Preventive treatment that reduces CVD by even a small percentage can substantially reduce, nationally and globally, the number of people who develop CVD and the costs of caring for them. This American Heart Association presidential advisory on dietary fats and CVD reviews and discusses the scientific evidence, including the most recent studies, on the effects of dietary saturated fat intake and its replacement by other types of fats and carbohydrates on CVD. In summary, randomized controlled trials that lowered intake of dietary saturated fat and replaced it with polyunsaturated vegetable oil reduced CVD by $\approx 30\%$, similar to the reduction achieved by statin treatment. Prospective observational studies in many populations showed that lower intake of saturated fat coupled with higher intake of polyunsaturated and monounsaturated fat is associated with lower rates of CVD and of other major causes of death and all-cause mortality. In contrast, replacement of saturated fat with mostly refined carbohydrates and sugars is not associated with lower rates of CVD and did not reduce CVD in clinical trials. Replacement of saturated with unsaturated fats lowers low-density lipoprotein cholesterol, a cause of atherosclerosis, linking biological evidence with incidence of CVD in populations and in clinical trials. Taking into consideration the totality of the scientific evidence, satisfying rigorous criteria for causality, we conclude strongly that lowering intake of saturated fat and replacing it with unsaturated fats, especially polyunsaturated fats, will lower the incidence of CVD. This recommended shift from saturated to unsaturated fats should occur simultaneously in an overall healthful dietary pattern such as DASH (Dietary Approaches to Stop Hypertension) or the Mediterranean diet as emphasized by the 2013 American Heart Association/American College of Cardiology lifestyle guidelines and the 2015 to 2020 Dietary Guidelines for Americans.

Resources

- <https://circ.ahajournals.org/content/early/2017/06/15/CIR.0000000000000510>
- <https://www.clevelandheartlab.com/wp-content/uploads/2015/09/OxLDL-Practitioner-One-Pager-CHL-D007d.pdf>
- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3504986/>
- <https://www.ncbi.nlm.nih.gov/pubmed/11975814>
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- <https://www.drperlmutter.com/cholesterol-important-brain-health/>
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- <https://www.sciencedirect.com/science/article/pii/S0899900711003145>
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- <https://www.bmj.com/content/353/bmj.i1246>
- https://www.heart.org/HEARTORG/General/About-Us—American-Heart-Association_UCM_305422_SubHomePage.jsp

**All cholesterol is NOT
bad for you!**



**CVD is NOT caused by
fat buildup in the arteries**



Coconut oil increases LDL and HDL



Coconut oil has beneficial health properties

- **May reduce harmful abdominal fat**
- **May boost brain function in AD**
- **Raises HDL**
- **Reduces hunger**
- **Anti-microbial effects**





Cholesterol, coconuts, and diet on Polynesian atolls: a natural experiment: the Pukapuka and Tokelau Island studies¹⁻³

*Ian A. Prior, M.D., F.R.C.P., F.R.A.C.P., Flora Davidson,⁴ B.H.Sc.,
Clare E. Salmond,⁵ M.Sc., and Z. Czochanska,⁶ DIP. AG.*

ABSTRACT Two populations of Polynesians living on atolls near the equator provide an opportunity to investigate the relative effects of saturated fat and dietary cholesterol in determining serum cholesterol levels. The habitual diets of the atoll dwellers from both Pukapuka and Tokelau are high in saturated fat but low in dietary cholesterol and sucrose. Coconut is the chief source of energy for both groups. Tokelauans obtain a much higher percentage of energy from coconut than the Pukapukans, 63% compared with 34%, so their intake of saturated fat is higher. The serum cholesterol levels are 35 to 40 mg higher in Tokelauans than in Pukapukans. These major differences in serum cholesterol levels are considered to be due to the higher saturated fat intake of the Tokelauans. Analysis of a variety of food samples, and human fat biopsies show a high lauric (12:0) and myristic (14:0) content. Vascular disease is uncommon in both populations and there is no evidence of the high saturated fat intake having a harmful effect in these populations. *Am. J. Clin. Nutr.* 34: 1552-1561, 1981.

KEY WORDS Dietary fats, cholesterol, risk

Neurobiol Aging. 2004 Mar;25(3):311-4.

Effects of beta-hydroxybutyrate on cognition in memory-impaired adults.

Reger MA¹, Henderson ST, Hale C, Cholerton B, Baker LD, Watson GS, Hyde K, Chapman D, Craft S.

+ Author information

Abstract

Glucose is the brain's principal energy substrate. In Alzheimer's disease (AD), there appears to be a pathological decrease in the brain's ability to use glucose. Neurobiological evidence suggests that ketone bodies are an effective alternative energy substrate for the brain. Elevation of plasma ketone body levels through an oral dose of medium chain triglycerides (MCTs) may improve cognitive functioning in older adults with memory disorders. On separate days, 20 subjects with AD or mild cognitive impairment consumed a drink containing emulsified MCTs or placebo. Significant increases in levels of the ketone body beta-hydroxybutyrate (beta-OHB) were observed 90 min after treatment ($P=0.007$) when cognitive tests were administered. beta-OHB elevations were moderated by apolipoprotein E (APOE) genotype ($P=0.036$). For 4+ subjects, beta-OHB levels continued to rise between the 90 and 120 min blood draws in the treatment condition, while the beta-OHB levels of 4- subjects held constant ($P<0.009$). On cognitive testing, MCT treatment facilitated performance on the Alzheimer's Disease Assessment Scale-Cognitive Subscale (ADAS-cog) for 4- subjects, but not for 4+ subjects ($P=0.04$). Higher ketone values were associated with greater improvement in paragraph recall with MCT treatment relative to placebo across all subjects ($P=0.02$). Additional research is warranted to determine the therapeutic benefits of MCTs for patients with AD and how APOE-4 status may mediate beta-OHB efficacy.

Effects of medium-chain triglycerides on weight loss and body composition: a meta-analysis of randomized controlled trials.

Mumme K, Stonehouse W.

Abstract

BACKGROUND: Medium-chain triglycerides (MCTs) may result in negative energy balance and weight loss through increased energy expenditure and lipid oxidation. However, results from human intervention studies investigating the weight reducing potential of MCTs, have been mixed.

OBJECTIVE: To conduct a systematic review and meta-analysis of randomized controlled trials comparing the effects of MCTs, specifically C8:0 and C10:0, to long-chain triglycerides (LCTs) on weight loss and body composition in adults. Changes in blood lipid levels were secondary outcomes.

METHODS: Randomized controlled trials >3 weeks' duration conducted in healthy adults were identified searching Web of Knowledge, Discover, PubMed, Scopus, New Zealand Science, and Cochrane CENTRAL until March 2014 with no language restriction. Identified trials were assessed for bias. Mean differences were pooled and analyzed using inverse variance models with fixed effects. Heterogeneity between studies was calculated using I(2) statistic. An I(2)>50% or P<0.10 indicated heterogeneity.

RESULTS: Thirteen trials (n=749) were identified. Compared with LCTs, MCTs decreased body weight (-0.51 kg [95% CI -0.80 to -0.23 kg]; P<0.001; I(2)=35%); waist circumference (-1.46 cm [95% CI -2.04 to -0.87 cm]; P<0.001; I(2)=0%), hip circumference (-0.79 cm [95% CI -1.27 to -0.30 cm]; P=0.002; I(2)=0%), total body fat (standard mean difference -0.39 [95% CI -0.57 to -0.22]; P<0.001; I(2)=0%), total subcutaneous fat (standard mean difference -0.46 [95% CI -0.64 to -0.27]; P<0.001; I(2)=20%), and visceral fat (standard mean difference -0.55 [95% CI -0.75 to -0.34]; P<0.001; I(2)=0%). No differences were seen in blood lipid levels. Many trials lacked sufficient information for a complete quality assessment, and commercial bias was detected. Although heterogeneity was absent, study designs varied with regard to duration, dose, and control of energy intake.

CONCLUSIONS: Replacement of LCTs with MCTs in the diet could potentially induce modest reductions in body weight and composition without adversely affecting lipid profiles. However, further research is required by independent research groups using large, well-designed studies to confirm the efficacy of MCT and to determine the dosage needed for the management of a healthy body weight and composition.

An Open-Label Pilot Study to Assess the Efficacy and Safety of Virgin Coconut Oil in Reducing Visceral Adiposity

[Kai Ming Liao](#),¹ [Yeong Yeh Lee](#),^{2,*} [Chee Keong Chen](#),³ and [Aida Hanum G. Rasool](#)⁴

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Abstract

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Introduction. This is an open-label pilot study on four weeks of virgin coconut oil (VCO) to investigate its efficacy in weight reduction and its safety of use in 20 obese but healthy Malay volunteers. *Methodology.* Efficacy was assessed by measuring weight and associated anthropometric parameters and lipid profile one week before and one week after VCO intake. Safety was assessed by comparing organ function tests one week before and one week after intake of VCO. Paired *t*-test was used to analyse any differences in all the measurable variables. *Results.* Only waist circumference (WC) was significantly reduced with a mean reduction of 2.86 cm or 0.97% from initial measurement ($P = .02$). WC reduction was only seen in males ($P < .05$). There was no change in the lipid profile. There was a small reduction in creatinine and alanine transferase levels. *Conclusion.* VCO is efficacious for WC reduction especially in males and it is safe for use in humans.

Effects of dietary coconut oil on the biochemical and anthropometric profiles of women presenting abdominal obesity.

Assunção ML¹, Ferreira HS, dos Santos AF, Cabral CR Jr, Florêncio TM.

+ Author information

Abstract

The effects of dietary supplementation with coconut oil on the biochemical and anthropometric profiles of women presenting waist circumferences (WC) >88 cm (abdominal obesity) were investigated. The randomised, double-blind, clinical trial involved 40 women aged 20-40 years. Groups received daily dietary supplements comprising 30 mL of either soy bean oil (group S; n = 20) or coconut oil (group C; n = 20) over a 12-week period, during which all subjects were instructed to follow a balanced hypocaloric diet and to walk for 50 min per day. Data were collected 1 week before (T1) and 1 week after (T2) dietary intervention. Energy intake and amount of carbohydrate ingested by both groups diminished over the trial, whereas the consumption of protein and fibre increased and lipid ingestion remained unchanged. At T1 there were no differences in biochemical or anthropometric characteristics between the groups, whereas at T2 group C presented a higher level of HDL (48.7 +/- 2.4 vs. 45.00 +/- 5.6; P = 0.01) and a lower LDL:HDL ratio (2.41 +/- 0.8 vs. 3.1 +/- 0.8; P = 0.04). Reductions in BMI were observed in both groups at T2 (P < 0.05), but only group C exhibited a reduction in WC (P = 0.005). Group S presented an increase (P < 0.05) in total cholesterol, LDL and LDL:HDL ratio, whilst HDL diminished (P = 0.03). Such alterations were not observed in group C. It appears that dietetic supplementation with coconut oil does not cause dyslipidemia and seems to promote a reduction in abdominal obesity.

**Saturated Fats do NOT
cause Heart Disease**



Malhotra A, et al. *Br J Sports Med* August 2017 Vol 51 No 15

**Saturated fat does not clog the arteries:
coronary heart disease is a chronic
inflammatory condition, the risk of
which can be effectively reduced from
healthy lifestyle interventions**

Aseem Malhotra,¹ Rita F Redberg,^{2,3} Pascal Meier^{4,5}

Mayo Clin Proc. ■ April 2014;89(4):451-453 ■ <http://dx.doi.org/10.1016/j.mayocp.2013.11.006>
www.mayoclinicproceedings.org ■ © 2014 Mayo Foundation for Medical Education and Research



COMMENTARY

The Questionable Benefits of Exchanging Saturated Fat With Polyunsaturated Fat

Uffe Ravnskov, MD, PhD; James J. DiNicolantonio, PharmD; Zoë Harcombe, MA; Fred A. Kummerow, PhD; Harumi Okuyama, MD, PhD; and Nicolai Worm, MD, PhD

Cholesterol is a fundamental component of every cell membrane in the body, including the membranes of your brain cells.



**Vegetable Oils are loaded
with pro-inflammatory
Omega 6 Fatty Acids**

