

# Coconut oil does not increase the serum cholesterol in heart patients

Dr. M Vijayakumar & Sandya Nandakumar,

Clinical Professor and Research Scholar, Amrita Institute of Medical Sciences, Kochi

Coronary artery disease [CAD] and its pathological atherosclerotic process are closely related to lipids in the body. Lipid levels are influenced by dietary oils and fats. A study on randomized single blind case control comparing the Impact of coconut oil versus sunflower oil as a cooking medium on the cardiovascular events and risk factors in patients with stable coronary heart disease receiving the standard medical care was undertaken by Amrita Institute of Medical Sciences, Kochi. This study was conducted to investigate the impact of cooking oil media on lipid profile, antioxidants and endothelial function in patients with CAD.

Two hundred patients with proven coronary artery disease on standard medical care were (100 each) assigned to coconut oil and sunflower oil arms for two years. Both groups were followed up for two years with anthropometric measurements, lipid profile, Lipoprotein a, ApoB/A-1 ratio, antioxidants and flow mediated vasodilation and cardiac events at three months, six months, one year and two years interval.

The subjects were selected from the patients attending the out patient department of the hospital as per the selection criteria. CAD was diagnosed by various methods like coronary angiogram, echo cardiograph, ECG evidence of CAD, stress perfusion scan and multi detector coronary angiogram. Subjects were included in the study if they achieve optimal control of

Table-1 Inclusion/ Exclusion criteria	
<b>Section A: Inclusion Criteria</b>	
1	Male/Female is 18 years of age or older
2	Clinical evidence of CAD with one of the following <ol style="list-style-type: none"> <li>Significant CAD in at least one of the epicardial coronary arteries confirmed by Angiography</li> <li>Previous MI or Acute Coronary Syndrome (UA/NSTEMI) not less than 3 month duration.</li> <li>Objective evidence of myocardial ischemia (TMT, Pharmacological stress test or radionuclide scan) with symptoms or on treatment.</li> <li>MDCT evidence of significant CAD.</li> <li>Pathological Q wave in ECG &amp; or RWMA in Echo.</li> </ol>
3	Have achieved target lipid Levels as per Adult treatment Panel III (ATP- III) guidelines and good glycemic control (HbA1c < 7mg %)
4	Subject is willing to comply with all follow-up visits
5	Subject signed and received copy of Informed Consent for main trial
<b>Section B: Exclusion Criteria</b>	
1	Untreated Hypothyroidism , uncontrolled diabetes mellitus
2	Severe congestive heart failure (class III or IV according to NYHA, or pulmonary edema) at the time of enrollment.
3	Pre-existing mal absorption syndrome.
4	Dietary pattern /Domestic dietetic environment unsuitable for trial design.
5	Abnormal renal function with creatinine > 2.0 mg/dl & or Creatinine Clearance < 30ml/m
6	Abnormal hepatic enzymes (SGOT/SGPT greater than 3 times the reference range) at entry

diabetes and lipid levels. Patients with uncontrolled hypothyroidism, renal failure, with more than 2 mg/dl creatine and liver failure and other illness limiting the life expectancy less than two years were excluded.

During the two years of follow up, the most important risk factor- Lipid profile which influences the clinical outcome in CAD patients were found to be comparable in both groups. Also the more sensitive parameters like ApoB/A ratio ,Lipo

protein (a) were comparable .The clinical outcome like death, myocardial infarction and stroke were not different in both groups.

During the two years of follow up, the most important risk factor-lipid profile which influences the

clinical outcome in CAD patients were found to be comparable in both groups. Also the more sensitive parameters like ApoB/A ratio ,Lipo protein (a) were comparable .The clinical outcome like death, myocardial infarction and stroke

were not different in both groups.The study has found out that coconut oil as a cooking oil media doesn't affect the serum cholesterol and associated risk factors in coronary artery disease patients along with standard medications

Parameters	Coconut oil	Sunflower oil	p value
WEIGHT	64.23±8.78	64.80±9.00	0.659
BODY MASS INDEX	24.72±3.07	24.54±3.07	0.684
WAIST HIP RATIO	0.97573±0.05053	0.96912±0.05208	0.376
PERCENTAGE BODY FAT	17.48±2.91	17.34±3.62	0.772
TOTAL CHLESTROL	149.28 ± 28.57	151.63 ± 44.54	0.664
LDL	91.04 ± 21.82	89.62 ± 28.92	0.702
TRIGLYCERIDES	109.32 ± 47.06	112.20 ± 45.15	0.667
HDL	43.22 ± 10.77	44.36 ± 16.35	0.569
VLDL	21.77 ± 9.37	22.53 ± 9.72	0.581
NEFA	0.50895 ± 0.35315	0.5476 ± 0.3611	0.456
LIPOPROTEIN	22.46 ± 20.24	30.64 ± 31.13	0.037
APO B/A	0.63520 ± 0.39404	0.64056 ± 0.38435	0.925
LIPIDPEROXIDASE	0.1509 ± 0.1324	0.12828 ± 0.04249	0.119
GLUTATHIONE REDUCTASE	0.00502 ± 0.00169	0.00494 ± 0.00161	0.731
GLUTATHIONE-S-TRANSFERASE	0.00285 ± 0.00113	0.00289 ± 0.00145	0.852
SUPEROXIDE DISMUTASE	1.64 ± 0.61	1.80 ± 0.61	0.072
CATALASE	0.00619 ± 0.01201	0.00459 ± 0.00700	0.267
ULTRASENSITIVE 0.411	C REACTIVE PROTEIN	1.23 ± 1.59	1.43 ± 1.72
HB A1c	6.54 ± 1.32	1.43 ± 1.72	0.229
TMT	1.32 ± 0.95	1.36 ± 0.81	0.763
ABSOLUTE INCREASE	0.2910 ± 0.19707	0.29815 ± 0.20533	0.812
PERCENTAGE INCREASE	7.92 ± 5.48	8.10 ± 5.68	0.828
STATIN-DURGS			
NO STATIN	2.1	1.1	0.81
ATORVASTATIN	64.6	62.8	
SIMVOSTATIN	10.4	10.6	
ROSUVASTATIN	21.9	25.5	
STATIN DOSAGE			
ATORVASTATIN	18.79	15.76.	0.18
SIMOFASTATIN	14	17	
ROSUVASTATIN	11	11.25	
CARDIAC EVENTS			
EVENTS	8.1%	7.4%	