

“Φυτοφαγική Διατροφή. Είναι πραγματικά προστατευτική για την  
καρδιά?



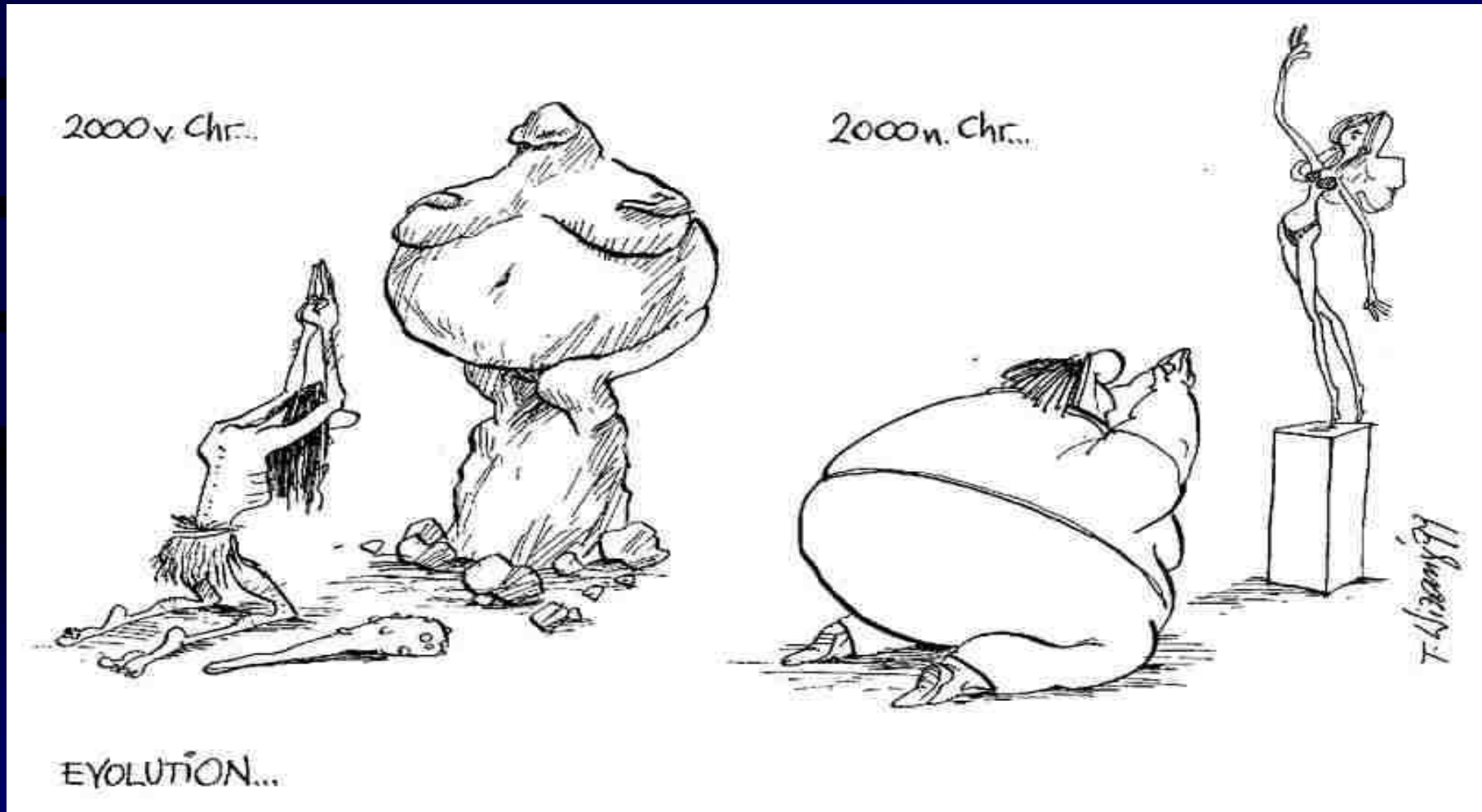
**Δημήτριος Ρίχτερ, MD, FESC, FAHA**

- Διευθυντής Καρδιολογικής Κλινικής Ευρωκλινικής Αθηνών

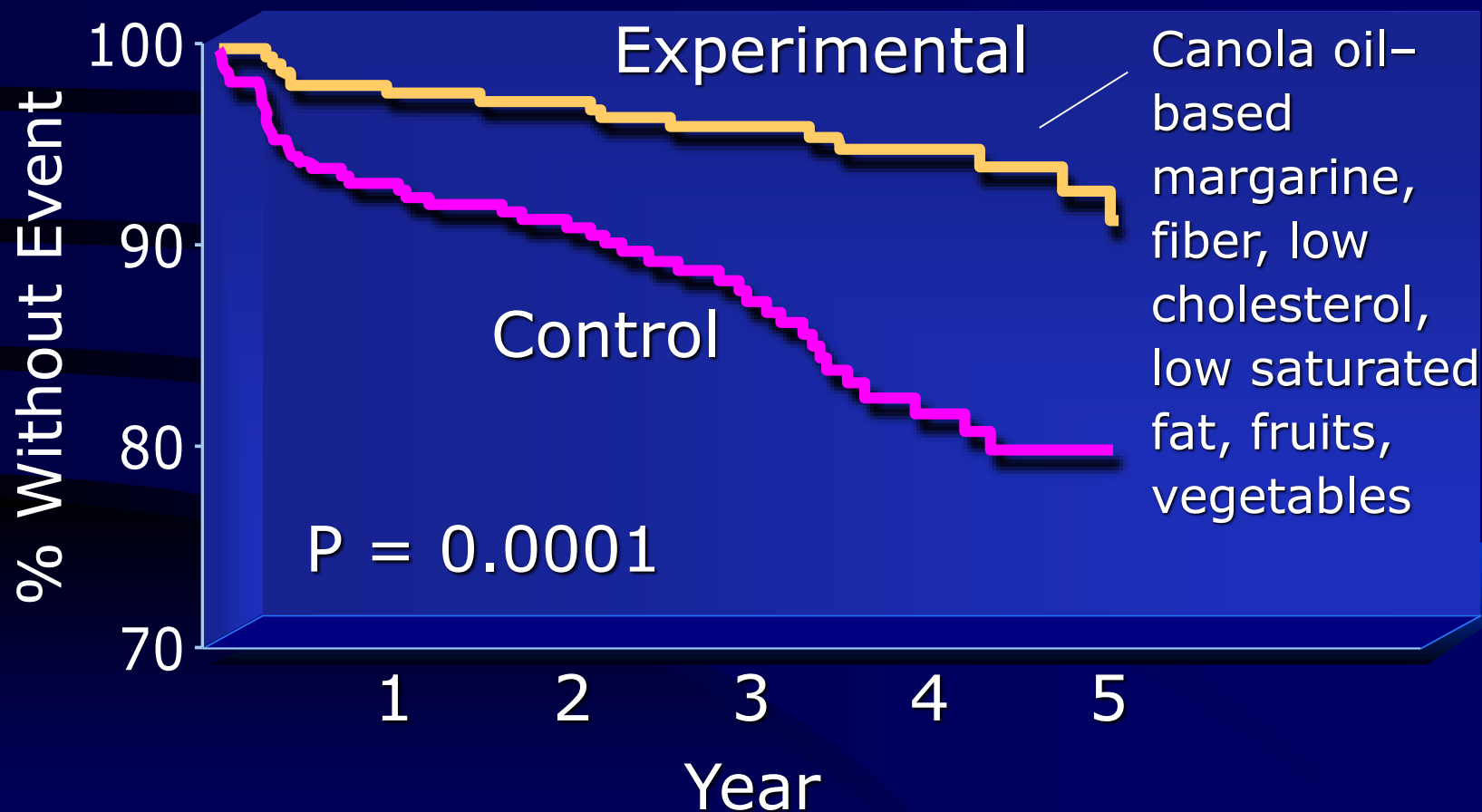
# Χρονική εξέλιξη αθηρογένεσης στον άνθρωπο



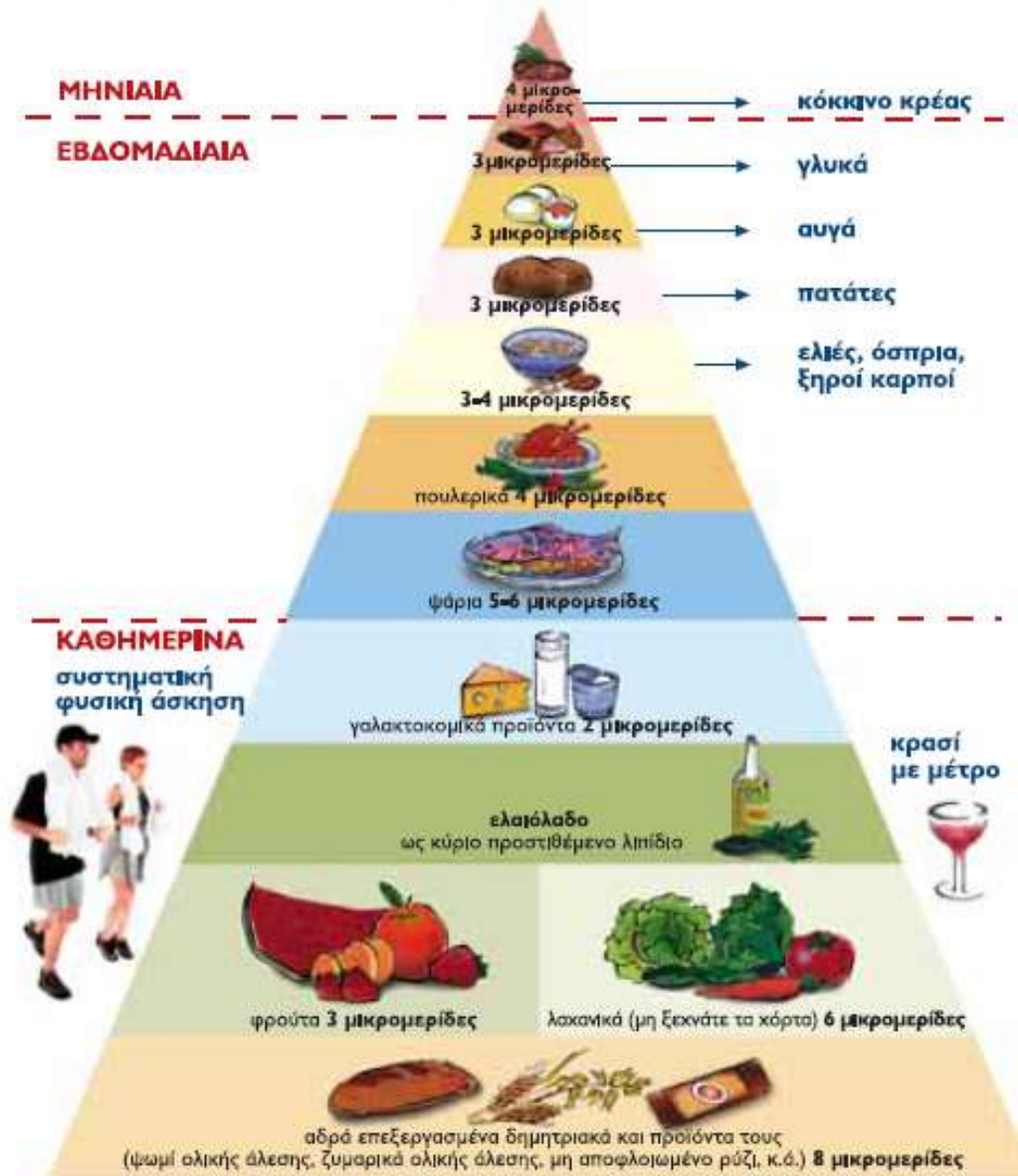
# Weight reduction-increased physical activity



# Lyon Diet Heart Study: *Cumulative Survival without Cardiac Death and Nonfatal MI*



# Μεσογειακή Διατροφή



**ΚΑΘΗΜΕΡΙΝΑ**  
συστηματική  
φυσική άσκηση



Μία μικρομερίδα αντιστοιχεί περίπου στο μισό της μερίδας εστιατορίου  
Συμμηθείτε επίσης: ● πίνετε άφθονο νερό ● αποφεύγετε το αλάτι  
● χρησιμοποιείτε μυρωδικά (ρίγανη, βασιλικό, θυμάρι, κλπ) στη θέση του  
Πηγή: Ανάστο Ειδικό Επιστημονικό Συμβούλιο Υγείας, Υπουργείο Υγείας και Πρόνοιας.

A higher adherence to the Mediterranean Diet was associated with a reduction in total mortality. An inverse association with greater adherence to this diet was evident for both death due to CHD and cancer...

Trichopoulou A et al N Engl J Med 2003;348:2599-608

Trichopoulou A et al Arch Intern med 2005;165:929-35

# *The* NEW ENGLAND JOURNAL *of* MEDICINE

ESTABLISHED IN 1812

APRIL 4, 2013

VOL. 368 NO. 14

## Primary Prevention of Cardiovascular Disease with a Mediterranean Diet

Ramón Estruch, M.D., Ph.D., Emilio Ros, M.D., Ph.D., Jordi Salas-Salvadó, M.D., Ph.D.,  
Maria-Isabel Covas, D.Pharm., Ph.D., Dolores Corella, D.Pharm., Ph.D., Fernando Arós, M.D., Ph.D.,  
Enrique Gómez-Gracia, M.D., Ph.D., Valentina Ruiz-Gutiérrez, Ph.D., Miquel Fiol, M.D., Ph.D.,  
José Lapetra, M.D., Ph.D., Rosa Maria Lamuela-Raventos, D.Pharm., Ph.D., Lluís Serra-Majem, M.D., Ph.D.,  
Xavier Pintó, M.D., Ph.D., Josep Basora, M.D., Ph.D., Miguel Angel Muñoz, M.D., Ph.D., José V. Sorlí, M.D., Ph.D.,  
José Alfredo Martínez, D.Pharm., M.D., Ph.D., and Miguel Angel Martínez-González, M.D., Ph.D.,  
for the PREDIMED Study Investigators\*

ABSTRACT



# PREDIMED: Mediterranean Diet for Primary Prevention of CVD

- Assessed the efficacy of two Mediterranean diets vs control low-fat diet on primary CVD prevention
- N=7,447 subjects aged 55 to 80 yrs; 57% female
  - No CVD at baseline
  - Type 2 diabetes or  $\geq 3$  major CVD risk factors\*
- Randomization (1:1:1)
  - Mediterranean diet + extra-virgin olive oil ( $\geq 4$  tbsp/day; n=2,543)
  - Mediterranean diet + nuts (30 g mixed nuts/day; n=2,454)
  - Low-fat diet (control; n=2,450)
- Primary endpoint: composite of MI, stroke, CV mortality
- Secondary endpoints: stroke, MI, CV mortality, all-cause mortality

**Trial stopped after median 4.8 yrs  
due to benefits seen with Mediterranean diets**

Parallel-group, multicenter, randomized trial

\*Smoking, hypertension, elevated LDL-C, low HDL-C, overweight or obesity, family history of premature coronary heart disease

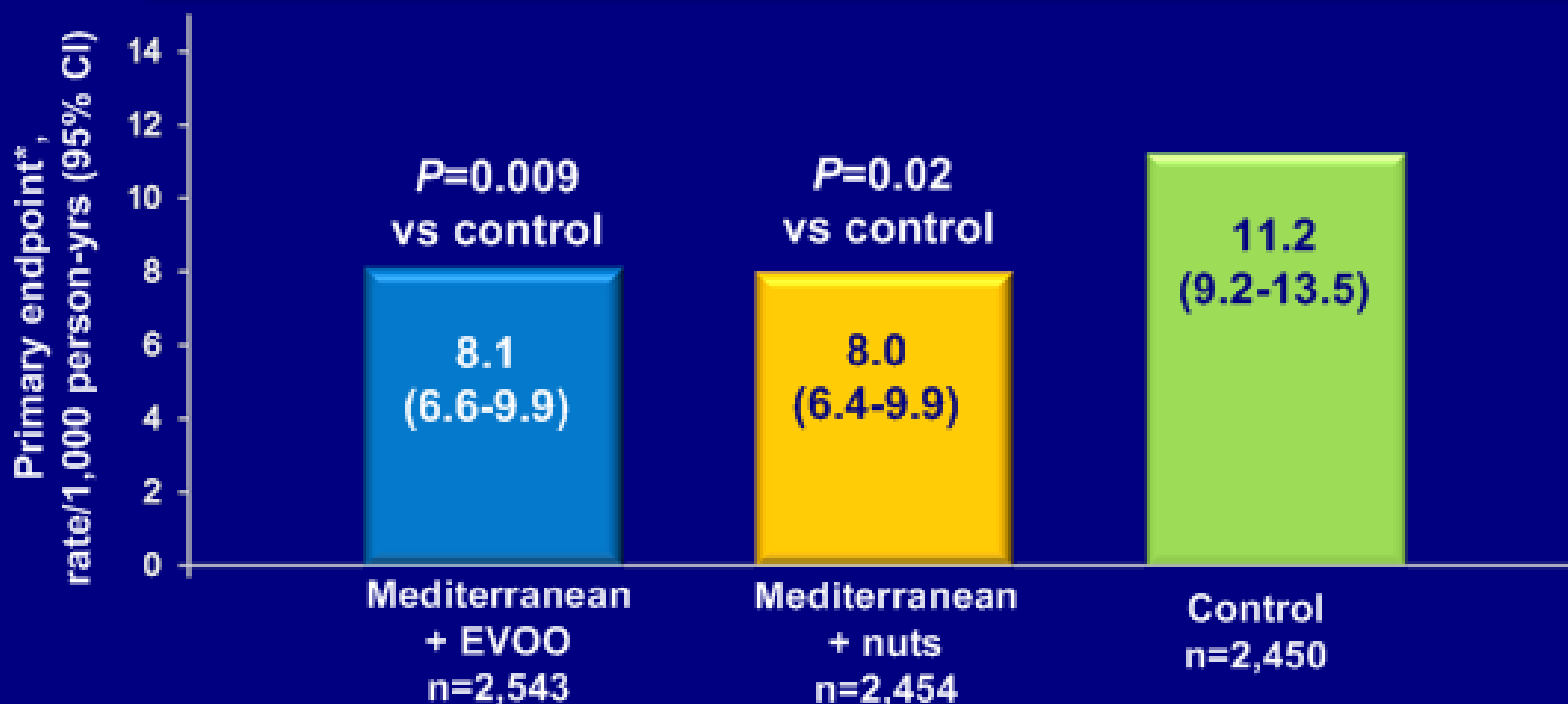
PREDIMED=Prevención con Dieta Mediterránea; MI=myocardial infarction





## PREDIMED: Primary Endpoint Rate

Among high-risk subjects with no CVD at baseline, Mediterranean diet supplemented with extra-virgin olive oil or nuts resulted in:  
Absolute risk reduction: 3 major CV events/1,000 person yrs  
Relative risk reduction: ~30%



\*Composite of MI, stroke, CV mortality

PREDIMED=Prevención con Dieta Mediterránea

CVD=cardiovascular disease; EVOO=extra-virgin olive oil

# Plant-based Nutrition – No single definition

A whole-food, plant-based diet is centered on whole, unrefined, or minimally refined plants; based on fruits, vegetables, tubers, whole grains, and legumes; excluding or minimizing meat (including chicken and fish), dairy products, and eggs—using plant based proteins, as well as highly refined foods like bleached flour, refined sugar, and oil (from [forksoverknives.org](http://forksoverknives.org)).

– ***Interest and ability of our patients to follow varies***

# Effects of Vegetarian Diets on Blood Lipids: A Systematic Review and Meta-Analysis of Randomized Controlled Trials

Wang et al. J Am Heart Assoc. 2015;4:e002408

“Vegetarian diets significantly lowered blood concentrations of TC, LDL-C, and HDL-C. The pool estimated changes were:

**TC: - 0.36 mmol/L (95% CI 0.55 to 0.17; P<0.001),**

**LDL-C: - 0.34 mmol/L (95% CI 0.57 to 0.11; P<0.001),**

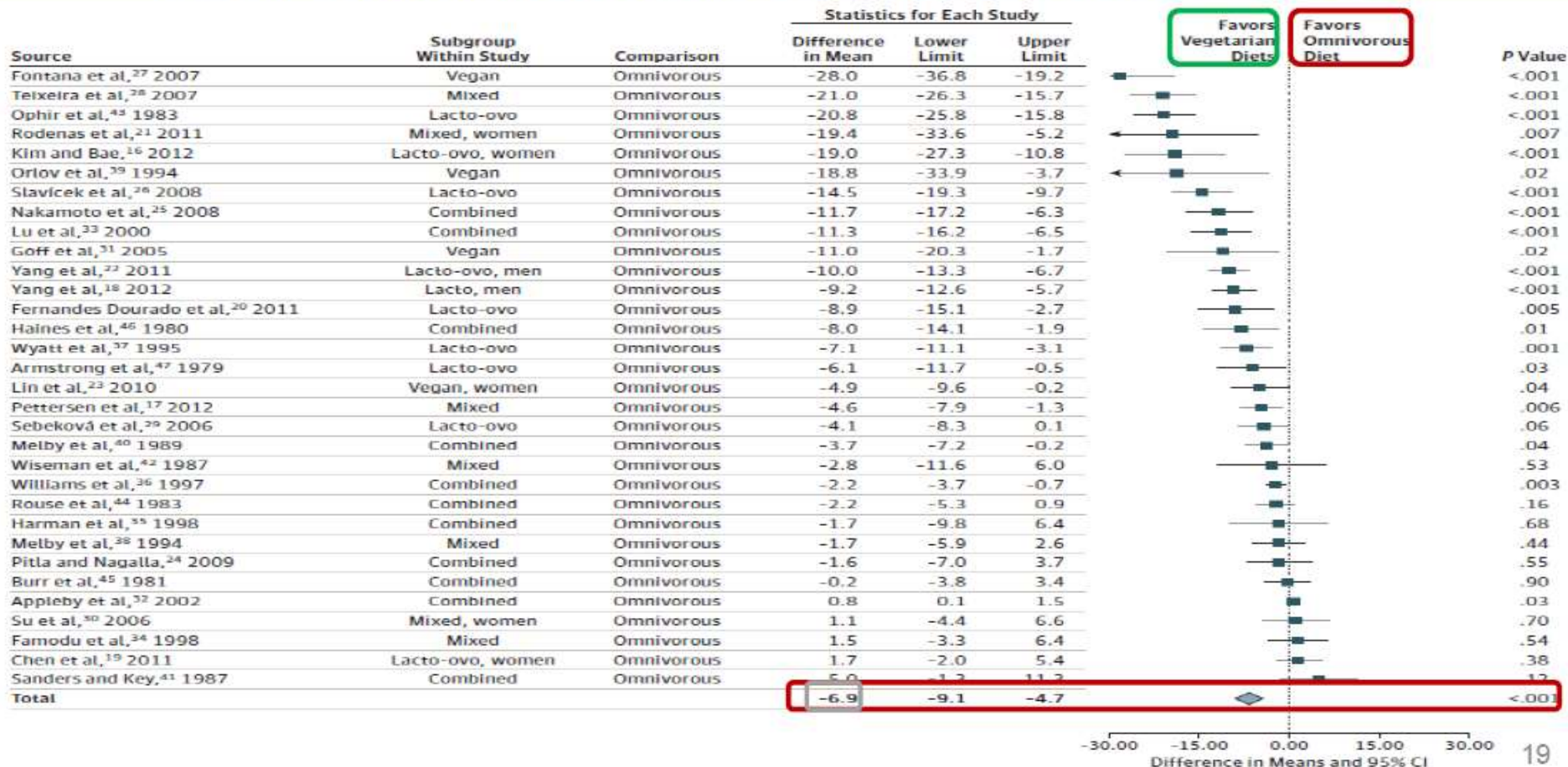
**HDL-C: - 0.10 mmol/L (95% CI 0.14 to 0.06; P<0.001), ...**

Vegetarian diets did not significantly affect blood triglyceride concentrations with a pooled estimated mean difference of - 0.04 mmol/L (95% CI 0.05 to 0.13; P=0.40).”

# Vegetarian Diets and Blood Pressure: A Meta-Analysis

Yokoyama et al. JAMA Internal Medicine, 2014;174:577-587

## Comparison of **systolic BP** between vegetarians and non-vegetarians in observational studies

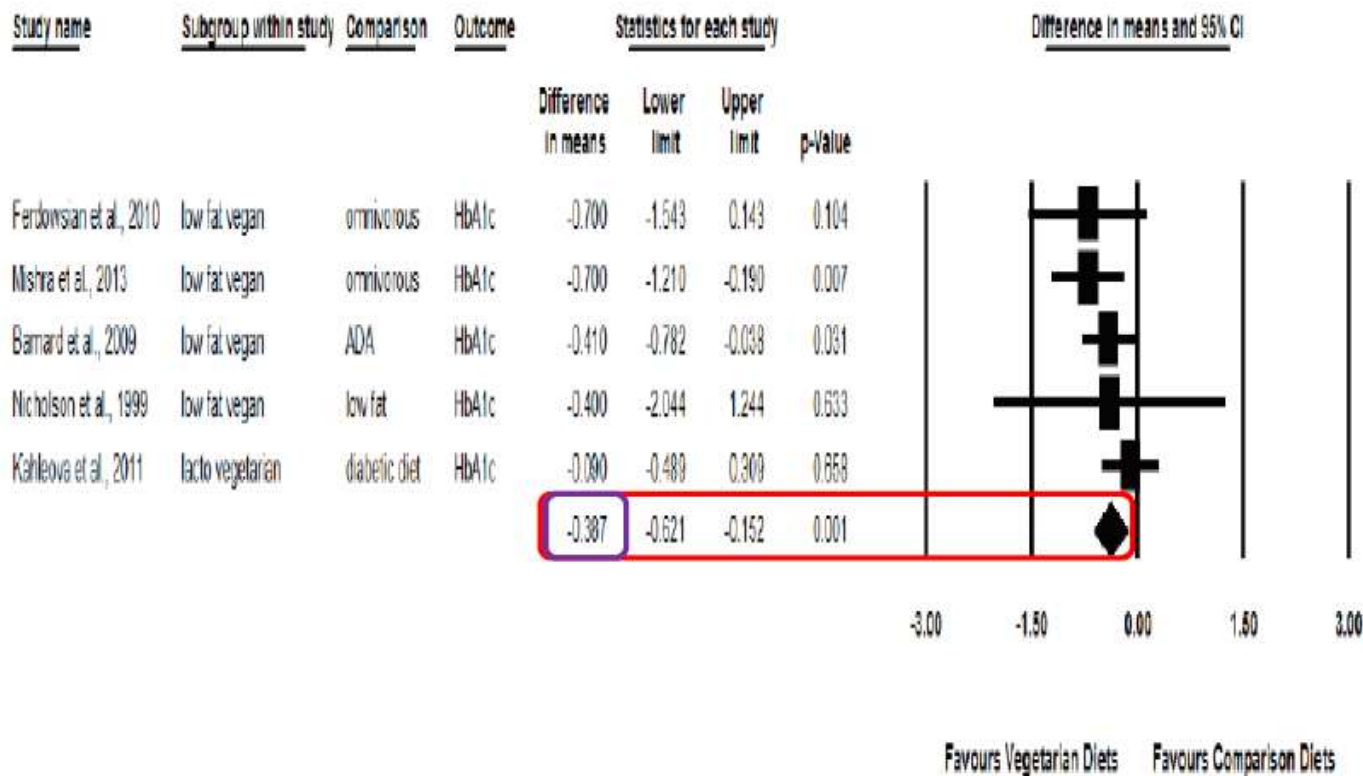




# Vegetarian diets and glycemic control in diabetes: a systematic review and meta-analysis

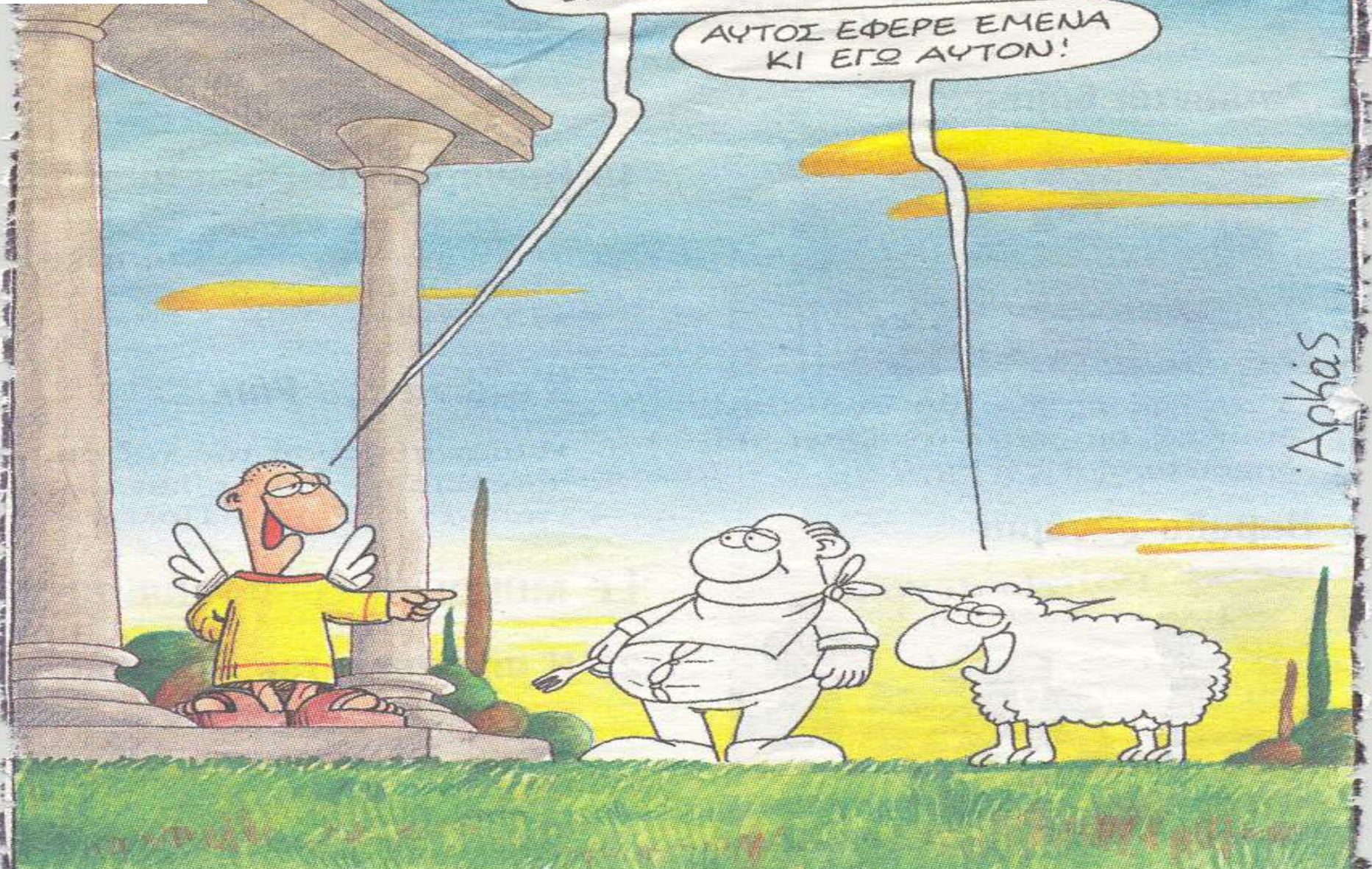
Yokoyama et al. *Cardiovasc Diagn Ther* 2014;4(5):373-382

## Mean change in HgA1c



“Consumption of vegetarian diets is associated with improved glycemic control in type 2 diabetes.”





Aphas