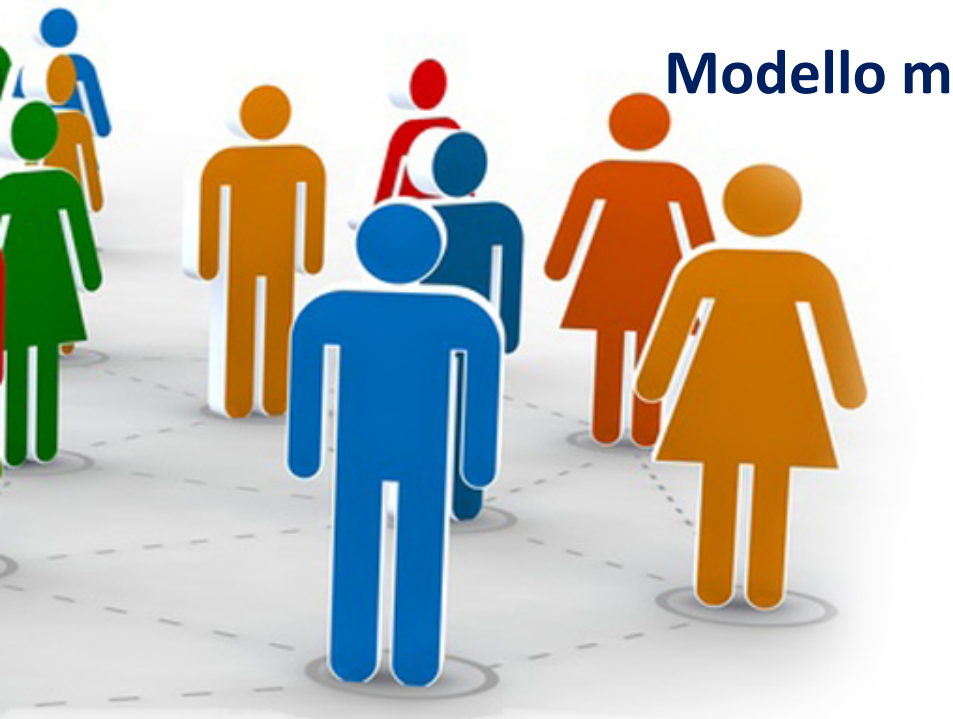
3° CONGRESSO NAZIONALE SIMPeSV / 70° Congresso FIMMG

DALLA MEDICINA DI PREVENZIONE ALL'AMBULATORIO DEGLI STILI DI VITA

Il MMG nell'alimentazione e nelle patologie correlate



6 – 11 ottobre 2014
Santa Margherita di Pula (CA) - Forte Village

Modello mediterraneo e piramide alimentare

Eleonora Poggiogalle
Lorenzo M Donini

Sapienza Università di Roma
Dipartimento di Medicina Sperimentale

Sezione di Fisiopatologia Medica,
Scienza dell'Alimentazione ed Endocrinologia

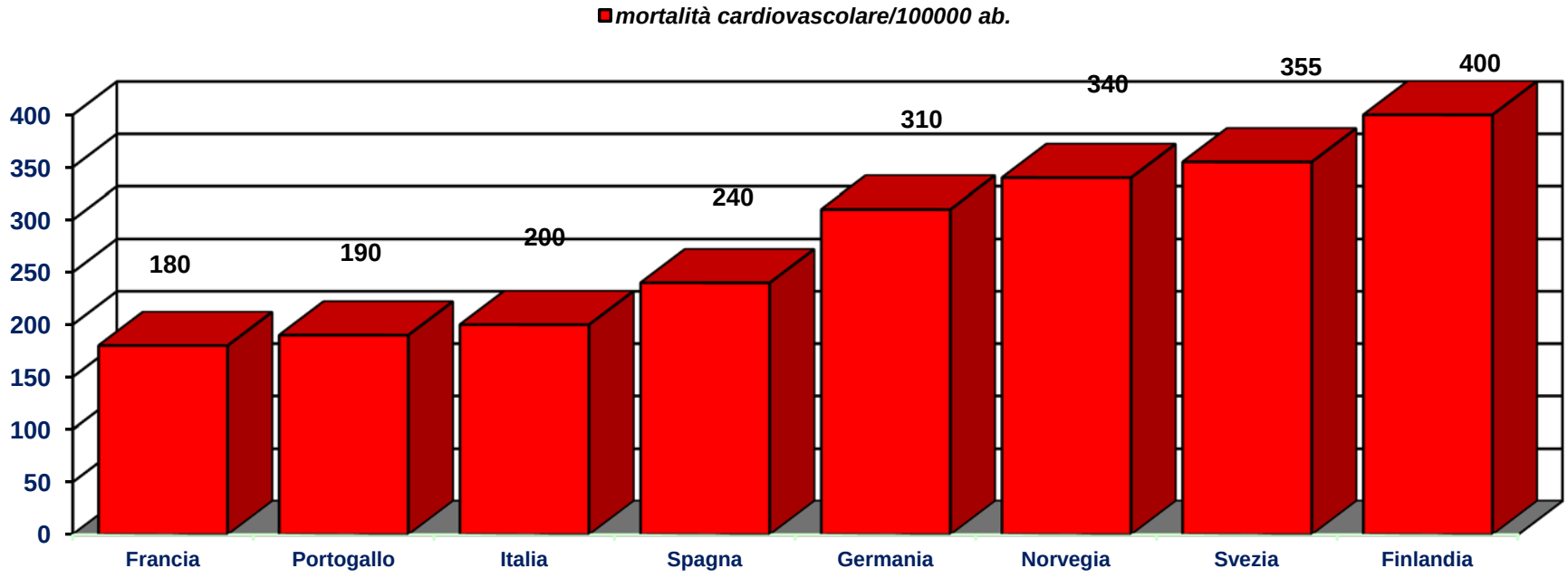
SIMPeSV Società Italiana di Medicina di Prevenzione e degli Stili di Vita

FIMMG

Scuola Nazionale di Medicina degli Stili di Vita

Ancel Keys
(1904 – 2004)

Keys A, Menotti A, Karoven MI.
The diet and the 15-year death rate in the Seven Countries Study.
Am J Epidemiol. 1986;124:903–915.



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NEJM

SHATTUCK LECTURE

We Can Do Better — Improving the Health of the American People

Steven A. Schroeder, M.D.

N Engl J Med 2007;357:1221-8.

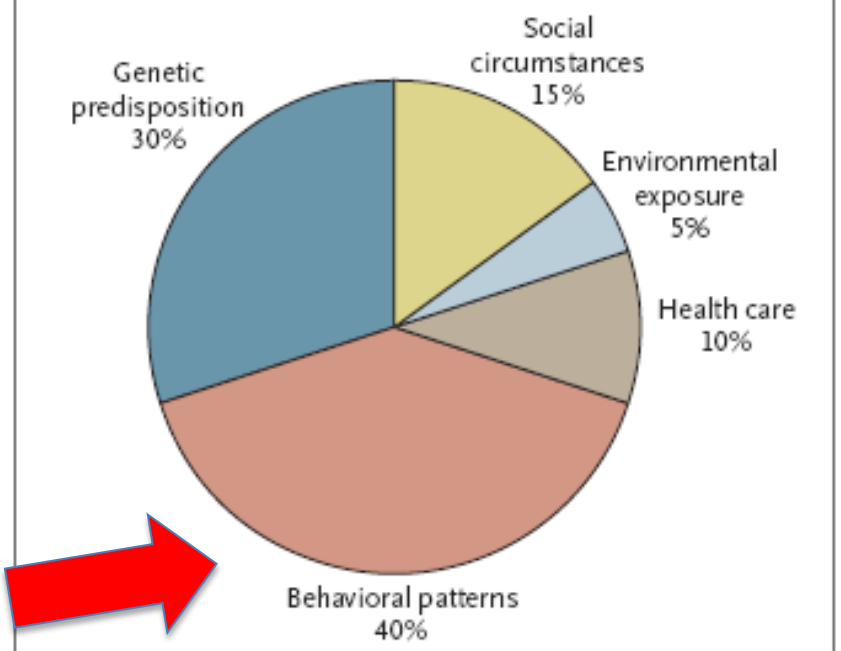


Figure 1. Determinants of Health and Their Contribution to Premature Death.

Adapted from McGinnis et al.[10]

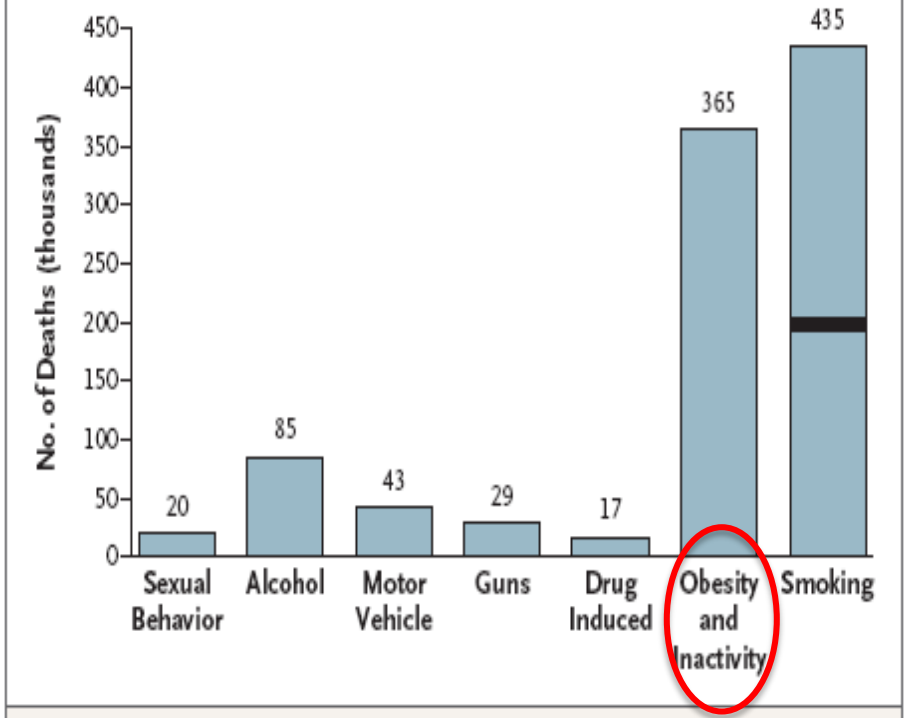


Figure 2. Numbers of U.S. Deaths from Behavioral Causes, 2000.

Among the deaths from smoking, the horizontal bar indicates the approximately 200,000 people who had mental illness or a problem with substance abuse. Adapted from Mokdad et al.[12]

NEJM

A Potential Decline in Life Expectancy in the United States in the 21st Century

S. Jay Olshansky, Ph.D., Douglas J. Passaro, M.D., Ronald C. Hershow, M.D., Jennifer Layden, M.P.H., Bruce A. Carnes, Ph.D., Jacob Brody, M.D., Leonard Hayflick, Ph.D., Robert N. Butler, M.D., David B. Allison, Ph.D., and David S. Ludwig, M.D., Ph.D.

N ENGL J MED 352;11 WWW.NEJM.ORG MARCH 17, 2005

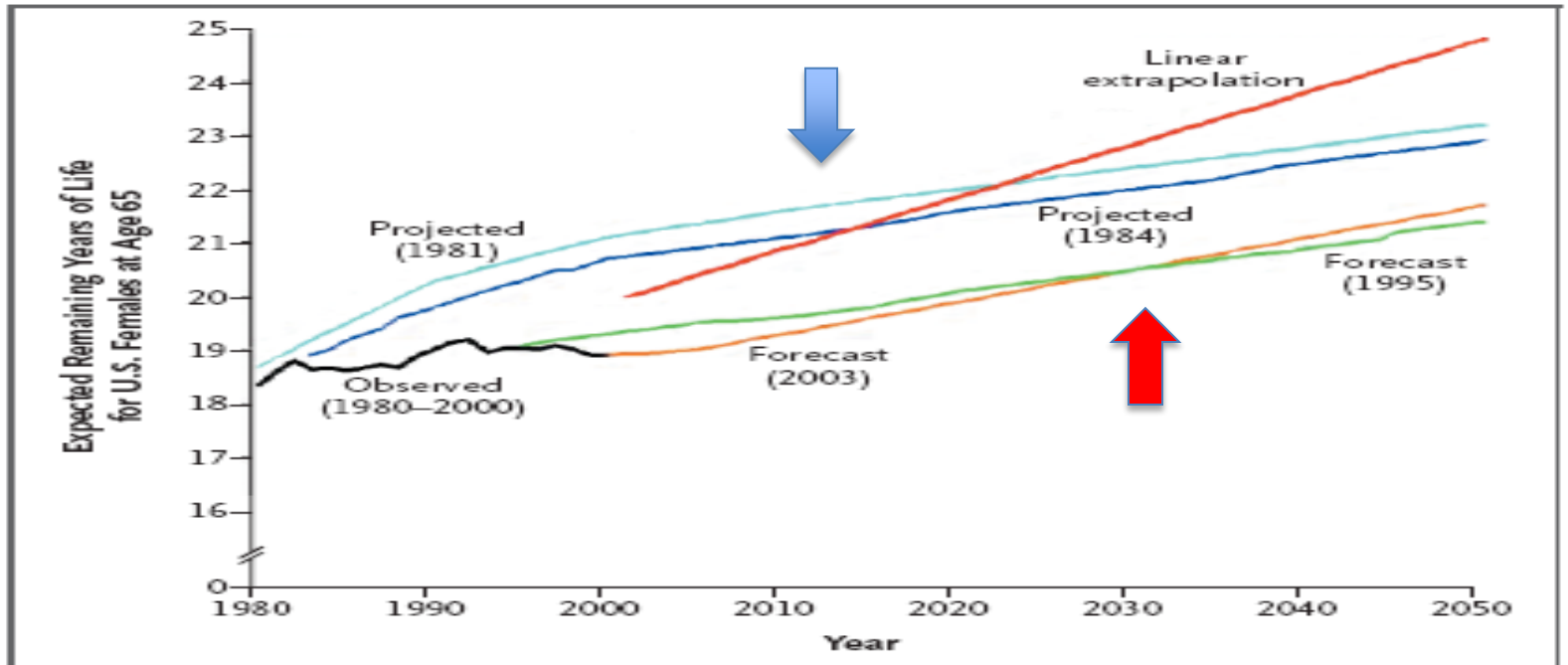
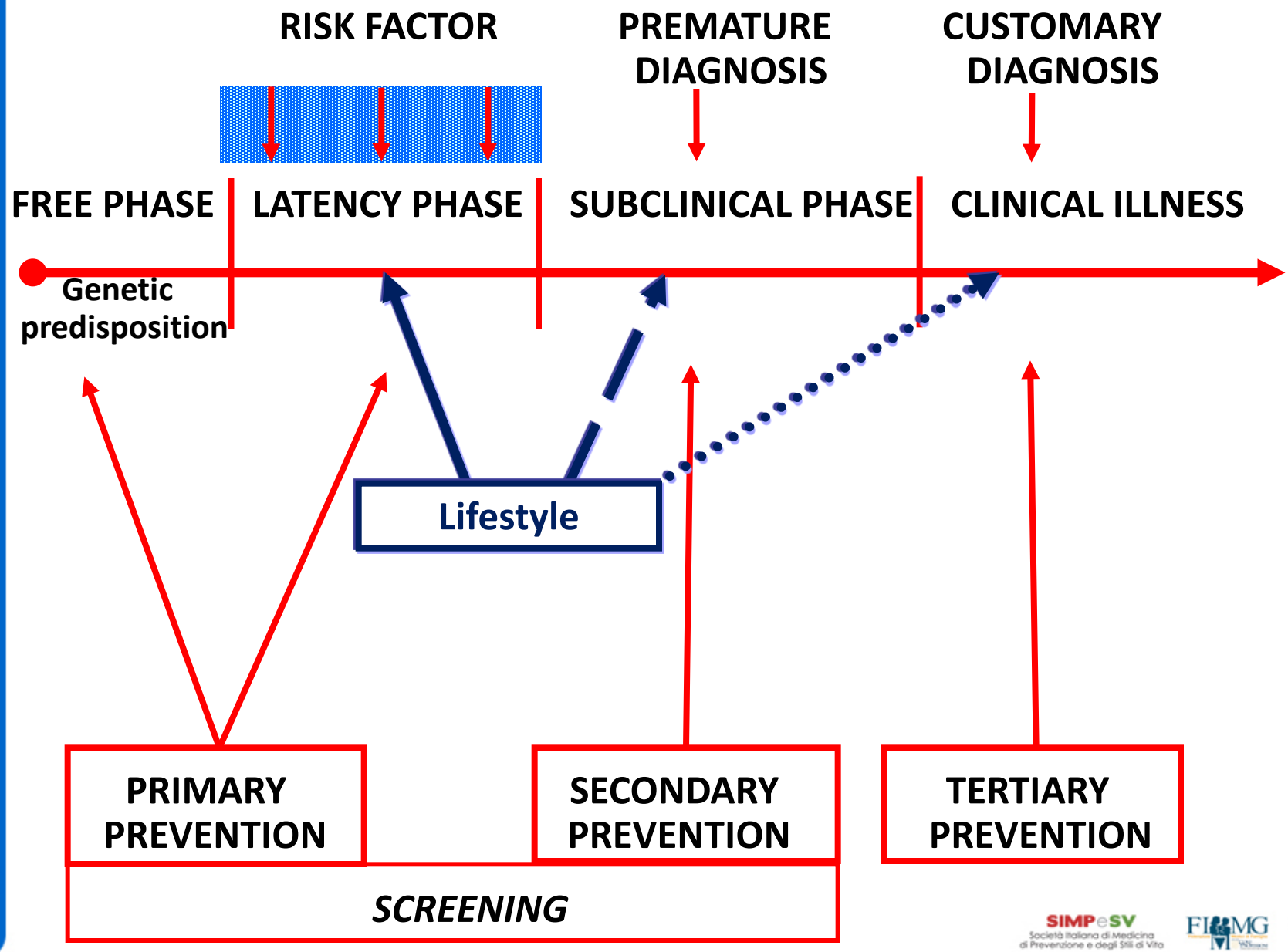
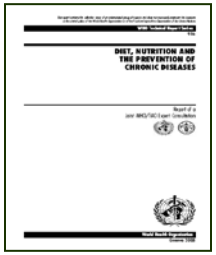


Figure 3. Observed and Projected Life Expectancy at Age 65 for U.S. Females (1980 to 2050).

Shown are observed changes, from 1980 to 2000,[46] in expected remaining years of life at age 65 for females in the United States, projections of the expected remaining years of life at age 65 made by the SSA in actuarial studies published in 1981[46] and 1984,[47] and forecasts based on the SSA's 1995 and 2003 Trustees Reports.[48,49] A forecast of the expected remaining years of life at age 65 for females in the United States, assuming the observed trend from 1940 to 2000 is extrapolated linearly from 2000 to 2050, is shown.


RISK FACTOR
PREMATURE DIAGNOSIS
CUSTOMARY DIAGNOSIS
FREE PHASE
LATENCY PHASE
SUBCLINICAL PHASE
CLINICAL ILLNESS
Genetic predisposition
Lifestyle
PRIMARY PREVENTION
SECONDARY PREVENTION
TERTIARY PREVENTION
SCREENING



DIET, NUTRITION AND THE PREVENTION OF CHRONIC DISEASES – WHO Technical Report 916, 2003

CARDIOVASCULAR DISEASE

Summary of strength of evidence on lifestyle factors and risk of developing cardiovascular diseases

Evidence	Decreased risk ↓	No relationship	Increased risk ↑
Convincing	Regular physical activity Linoleic acid Fish and fish oils (EHA and DHA) Vegetables and fruits (including berries) Potassium Low to moderate alcohol intake (for coronary heart disease)	Vitamin E supplements	Myristic and palmitic acids Trans fatty acids High sodium intake Overweight High alcohol intake (for stroke)
Probable	α-Linolenic acid Oleic acid NSP Wholegrain cereals Nuts (unsalted) Plant sterols/stanols Folate	Stearic acid	Dietary cholesterol Unfiltered boiled coffee
Possible	Flavonoids Soy products		Fats rich in lauric acid Impaired fetal nutrition Beta-carotene supplements
Inufficient	Calcium Magnesium Vitamin C		Carbohydrates Iron

EPA, eicosapentaenoic acid; DHA, docosahexaenoic acid; NSP, non-starch polysaccharides.

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DIET, NUTRITION AND THE PREVENTION OF CHRONIC DISEASES – WHO Tech Report 916, 2003

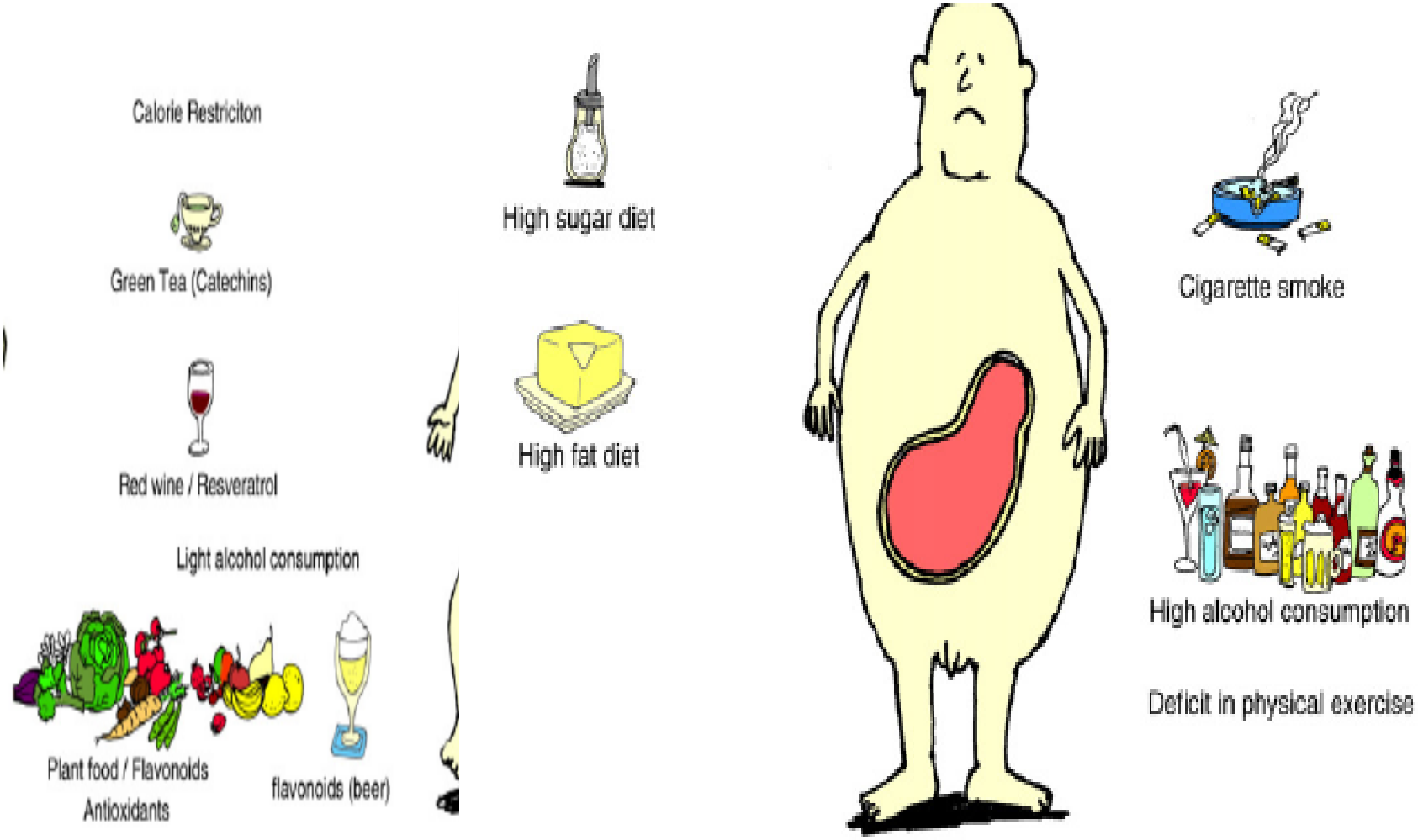
Summary of strength of evidence on factors that might promote or protect against weight gain and obesity[a]

WEIGHT GAIN AND OBESITY

Evidence	Decreased risk	No relationship	Increased risk
Convincing	Regular physical activity High dietary intake of NSP (dietary fibre)[b]		Sedentary lifestyles High intake of energy-dense micronutrient-poor foods[c]
Probable	Home and school environments that support healthy food choices for children[d] Breastfeeding		Heavy marketing of energy-dense foods[d] and fast-food outlets[d] High intake of sugars-sweetened soft drinks and fruit juices Adverse socioeconomic conditions[d] (in developed countries, especially for women)
Possible	Low glycaemic index foods	Protein content of the diet	Large portion sizes High proportion of food prepared outside the home (developed countries) "Rigid restraint/periodic disinhibition" eating patterns
Insufficient	Increased eating frequency		Alcohol

Ageing and eating

Patrick Rockenfeller, Frank Madeo



Biochimica et Biophysica Acta 1803 (2010) 499–506

- Dieta mediterranea e salute
- Dieta mediterranea vs alimenti e salute
- Dieta mediterranea come modello mediterraneo

Accruing evidence on benefits of adherence to the Mediterranean diet on health: an updated systematic review and meta-analysis[1,2]

Francesco Sofi, Rosanna Abbate, Gian Franco Gensini, and Alessandro Casini

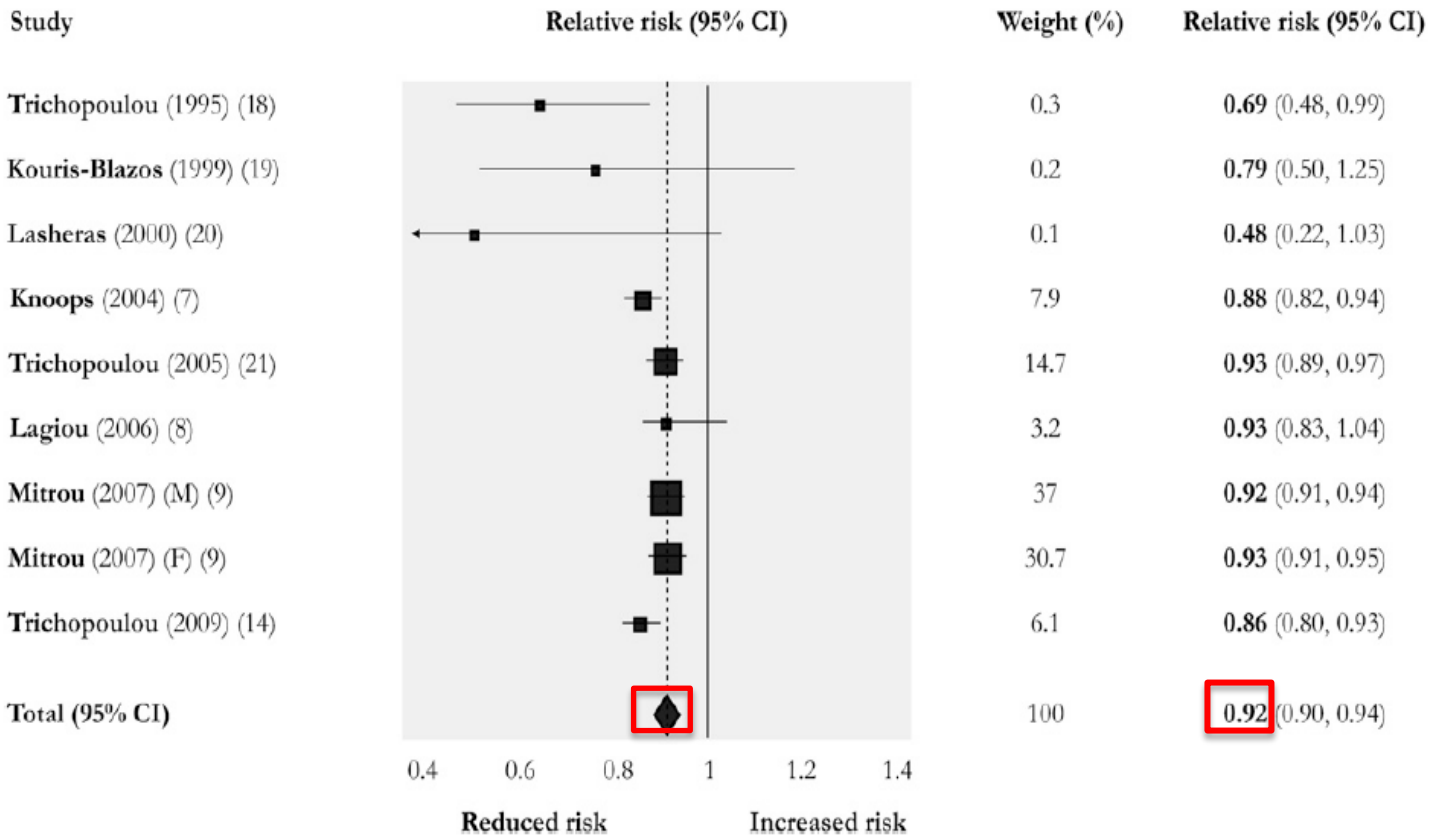


FIGURE 1. Forest plot of the association between a 2-point increase of adherence score to the Mediterranean diet and the risk of all-cause mortality. The center of each square indicates the relative risk of the study, and the horizontal lines indicate 95% CIs. The area of the square is proportional to the amount of information from the study. The diamond indicates pooled estimates.

Am J Clin Nutr 2010;92:1189–96.

Mediterranean' dietary pattern for the primary prevention of cardiovascular disease (Review)

Rees K, Hartley L, Flowers N, Clarke A, Hooper L, Thorogood M, Stranges S

Analysis 1.1. Comparison 1 Mediterranean dietary intervention versus no intervention or minimal intervention (secondary outcomes - CVD risk factors), Outcome 1 Total cholesterol (mmol/L), change from baseline.

Review: 'Mediterranean' dietary pattern for the primary prevention of cardiovascular disease

Comparison: 1 Mediterranean dietary intervention versus no intervention or minimal intervention (secondary outcomes - CVD risk factors)

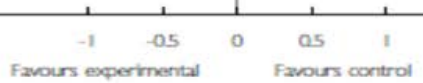
Outcome: 1 Total cholesterol (mmol/L), change from baseline

Study or subgroup	Experimental N	Mean(SD)	Control N	Mean(SD)	Mean Difference IV,Random,95% CI	Weight	Mean Difference IV,Random,95% CI
Abedi 2010	35	0.31 (0.67)	29	0.31 (1)		4.7 %	0.0 [-0.43, 0.43]
Djuric 2009	27	-0.026 (0.97)	33	-0.1 (0.86)		4.0 %	0.08 [-0.39, 0.55]
ENCORE	46	0 (0.88)	49	-0.03 (0.88)		6.4 %	0.03 [-0.32, 0.38]
Esposito 2004	90	-0.284 (0.155)	90	-0.05 (0.052)		25.7 %	-0.23 [-0.27, -0.20]
Konstantinidou 2010	60	-0.125 (0.6)	29	0 (0.6)		9.5 %	-0.12 [-0.39, 0.14]
Lanza 2001	370	-0.14 (0.96)	374	0.07 (0.88)		18.3 %	-0.21 [-0.34, -0.08]
Wardle 2000	53	-0.7 (0.91)	50	-0.2 (0.68)		7.8 %	-0.50 [-0.81, -0.19]
WHI	1408	-0.26 (0.93)	1408	-0.2 (0.97)		23.5 %	-0.06 [-0.13, 0.01]
Total (95% CI)	**2089**		**2062**			**100.0 %**	**-0.16 [-0.26, -0.06]**

Heterogeneity: Tau² = 0.01; Chi² = 26.49, df = 7 (P = 0.00041); I² = 74%

Test for overall effect: Z = 3.01 (P = 0.0026)

Test for subgroup differences: Not applicable



Cochrane Database Syst Rev. **2013**;8:CD009825.

'Mediterranean' dietary pattern for the primary prevention of cardiovascular disease (Review)

Rees K, Hartley L, Flowers N, Clarke A, Hooper L, Thorogood M, Stranges S

Analysis 1.3. Comparison 1 Mediterranean dietary intervention versus no intervention or minimal intervention (secondary outcomes - CVD risk factors), Outcome 3 LDL-cholesterol (mmol/L), change from baseline.

Review: 'Mediterranean' dietary pattern for the primary prevention of cardiovascular disease

Comparison: 1 Mediterranean dietary intervention versus no intervention or minimal intervention (secondary outcomes - CVD risk factors)

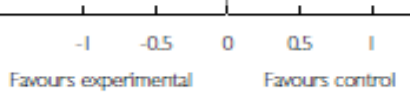
Outcome: 3 LDL-cholesterol (mmol/L), change from baseline

Study or subgroup	Experimental N	Mean(SD)	Control N	Mean(SD)	Mean Difference IV,Fixed,95% CI	Weight	Mean Difference IV,Fixed,95% CI
Abedi 2010	35	-0.155 (0.7)	29	-0.33 (0.88)		2.2 %	0.18 [-0.22, 0.57]
Djuric 2009	27	-0.052 (0.85)	33	-0.13 (0.69)		2.2 %	0.08 [-0.32, 0.48]
ENCORE	46	0 (0.78)	49	-0.03 (0.8)		3.4 %	0.03 [-0.29, 0.35]
Konstantinidou 2010	60	-0.07 (0.45)	29	0.05 (0.46)		8.5 %	-0.12 [-0.32, 0.08]
Wardle 2000	53	-0.6 (0.91)	50	-0.2 (0.81)		3.2 %	-0.40 [-0.73, -0.07]
WHI	1408	-0.26 (0.89)	1408	-0.19 (0.89)		80.5 %	-0.07 [-0.14, 0.00]
Total (95% CI)	**1629**		**1598**			**100.0 %**	**-0.07 [-0.13, -0.01]**

Heterogeneity: $Chi^2 = 6.40$, $df = 5$ ($P = 0.27$); $I^2 = 22\%$

Test for overall effect: $Z = 2.41$ ($P = 0.016$)

Test for subgroup differences: Not applicable

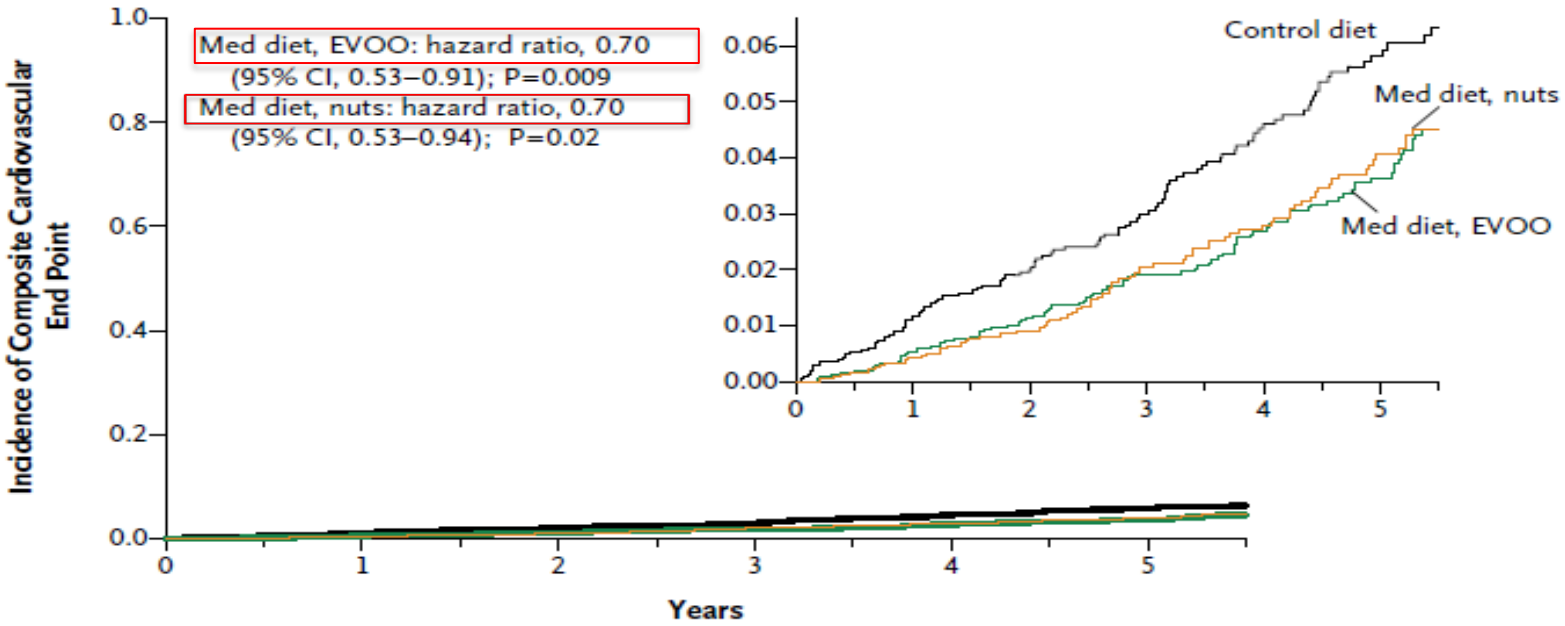


Cochrane Database Syst Rev. **2013**;8:CD009825.

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*

A Primary End Point (acute myocardial infarction, stroke, or death from cardiovascular causes)



No. at Risk

Control diet	2450	2268	2020	1583	1268	946
Med diet, EVOO	2543	2486	2320	1987	1687	1310
Med diet, nuts	2454	2343	2093	1657	1389	1031

Figure 1. Kaplan–Meier Estimates of the Incidence of Outcome Events in the Total Study Population.

Panel A shows the incidence of the primary end point (a composite of acute myocardial infarction, stroke, and death from cardiovascular causes), and Panel B shows total mortality. Hazard ratios were stratified according to center (Cox model with robust variance estimators). CI denotes confidence interval, EVOO extra-virgin olive oil, and Med Mediterranean.

NEJM 2013;368:1279-90

Mediterranean Diet and Type 2 Diabetes Risk in the European Prospective Investigation Into Cancer and Nutrition (EPIC) Study

The InterAct project

Table 2—*HRs of type 2 diabetes according to level of adherence to the MDP (rMED score)*

	Categories of rMED†									
Number of case subjects/number of subcohort*	Low (3,879/3,902)		Medium (5,103/6,767)		High (4,380/7,392)			Two-point increment in rMED‡ (11,994/15,049)		
	HR§	95% CI	HR§	95% CI	HR§	95% CI	*P* (trend)	HR§	95% CI	*P*
Crude model	1.00	Referent	0.74	0.70–0.79	0.65	0.60–0.71	<0.001	0.88	0.86–0.90	<0.001
Sex- and BMI-adjusted model	1.00	Referent	0.87	0.81–0.94	0.80	0.72–0.89	<0.001	0.94	0.91–0.96	<0.001
Multiple adjusted model	1.00	Referent	0.93	0.86–1.01	0.88	0.79–0.97	0.013	0.96	0.94–0.99	0.002

*Numbers in the subcohort exclude type 2 diabetic case subjects. †rMED categories: low adherence to the MDP (rMED 0–6); medium adherence to the MDP (rMED 7–10); high adherence to the MDP (rMED 11–18). ‡rMED included as a continuous variable (range 0–18). §Modified Cox proportional hazards regression models stratified by center. Multiple adjusted models were adjusted for sex, BMI (as continuous variable), educational level (no formal education, primary school, technical/professional school, secondary school, and longer education including university degree), physical activity (inactive, moderately inactive, moderately active, and active), smoking status (never, former, and three categories of current smoker: 1–10 cigarettes day^{-1}, 11–20 cigarettes day^{-1}, and >20 cigarettes day^{-1}), and total calorie intake (as a continuous variable).

Diabetes Care 34:1913–1918, 2011

Mediterranean Diet, Stroke, Cognitive Impairment, and Depression: A Meta-Analysis

Theodora Psaltopoulou, PhD,[1] Theodoros N. Sergentanis, MD,[1] Demosthenes B. Panagiotakos, PhD,[2] Ioannis N. Sergentanis, MD,[1,3] Rena Kosti, PhD,[1] and Nikolaos Scarmeas, MD, MSc, PhD[4,5]

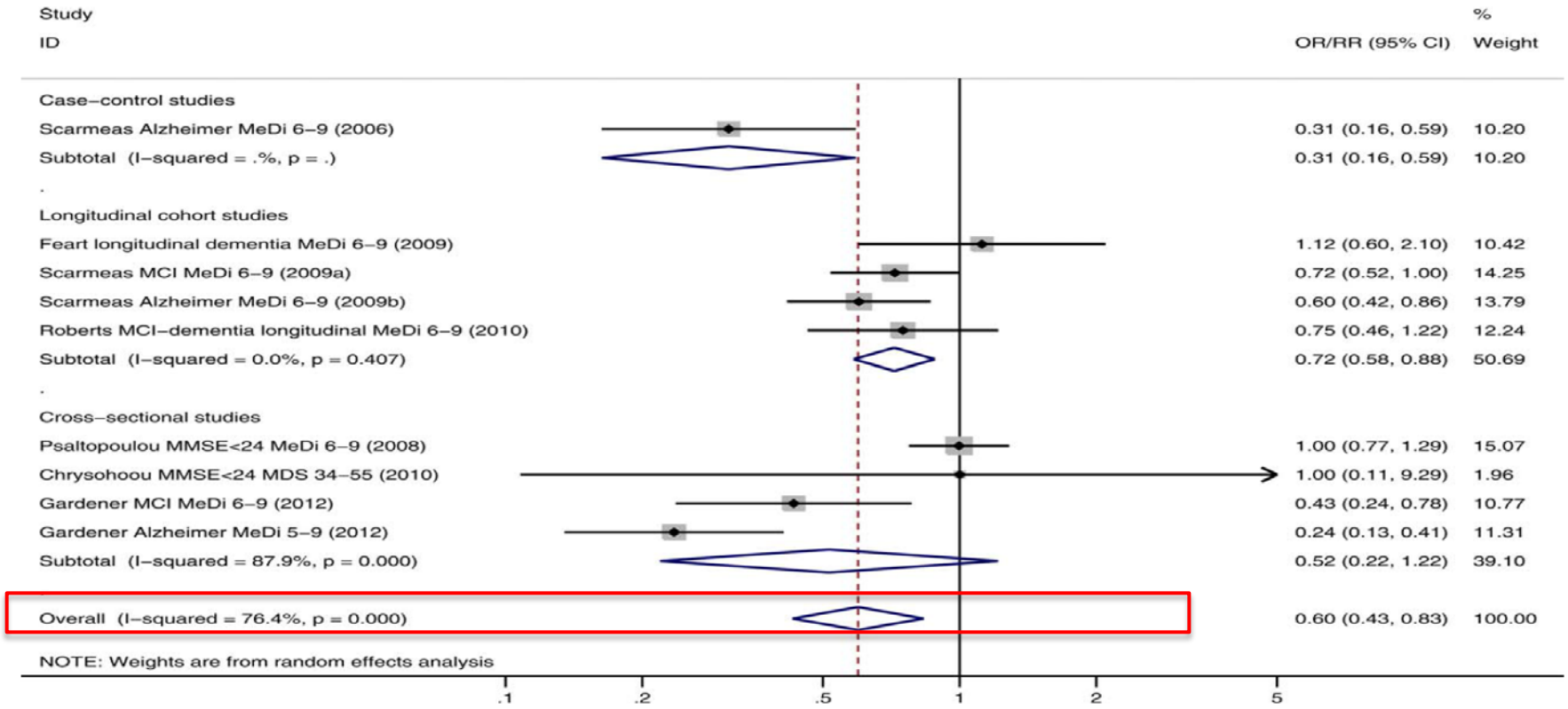


FIGURE 3: Forest plot describing the association between high adherence to Mediterranean diet and risk for cognitive impairment. Apart from the overall analysis, the subanalyses on case–control (upper panels), longitudinal cohort (middle panels), and cross-sectional studies (lower panels) are presented. CI = confidence interval; MCI = mild cognitive impairment; MMSE = Mini-Mental State Examination; OR = odds ratio; RR = relative risk.

ANN NEUROL 2013;00:000–000

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Mediterranean Diet, Stroke, Cognitive Impairment, and Depression: A Meta-Analysis

Theodora Psaltopoulou, PhD,[1] Theodoros N. Sergentanis, MD,[1] Demosthenes B. Panagiotakos, PhD,[2] Ioannis N. Sergentanis, MD,[1,3] Rena Kosti, PhD,[1] and Nikolaos Scarmeas, MD, MSc, PhD[4,5]

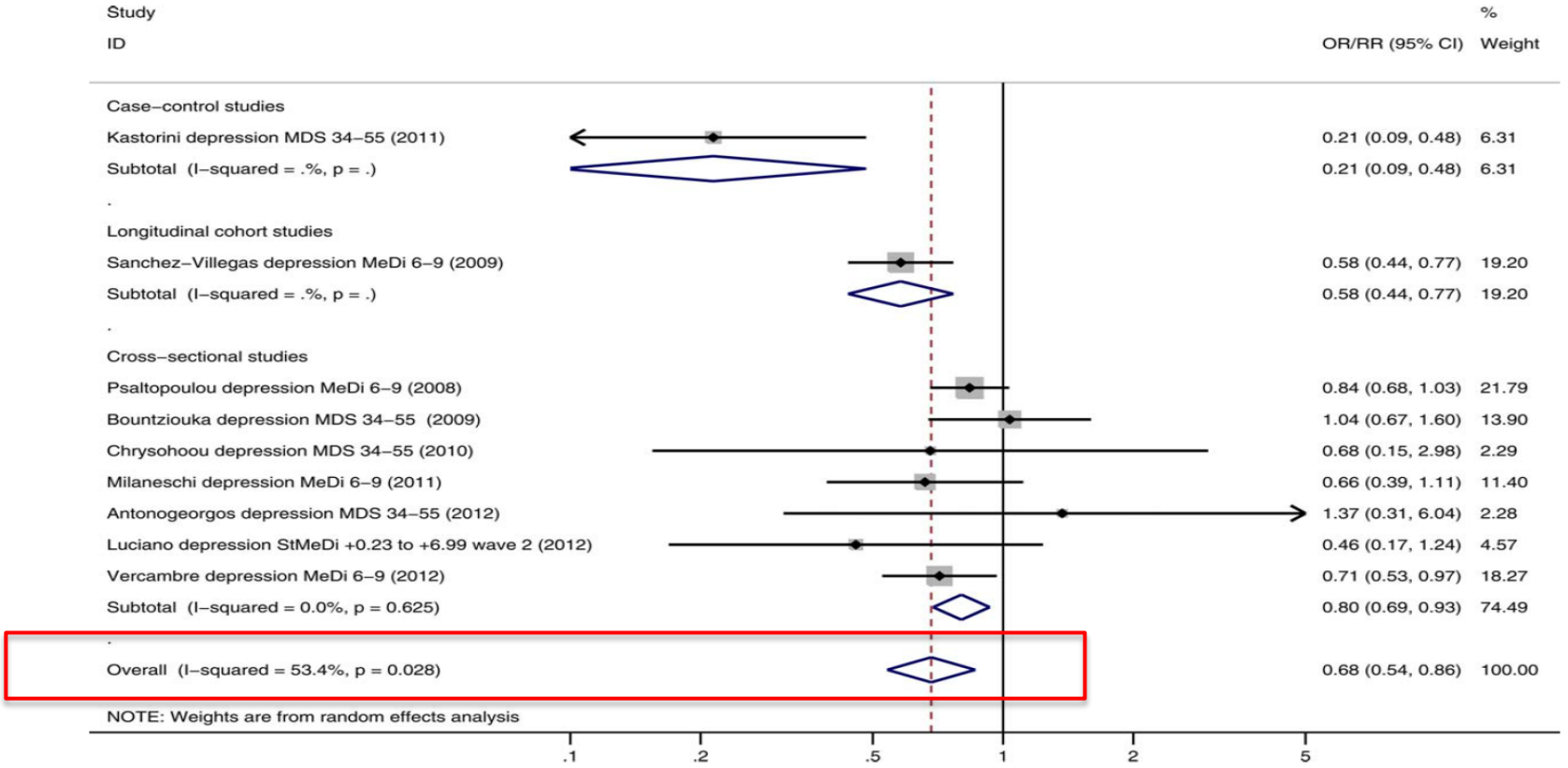

FIGURE 2: Forest plot describing the association between high adherence to Mediterranean diet and risk for depression. Apart from the overall analysis, the subanalyses on case–control (upper panels), longitudinal cohort (middle panels), and cross-sectional studies (lower panels) are presented. CI = confidence interval; MeDi = score according to Trichopoulou et al.; MDS = score according to Panagiotakos et al.; OR = odds ratio; RR = relative risk.

ANN NEUROL 2013;00:000–000

IJC
International Journal of Cancer

Adherence to Mediterranean diet and risk of cancer: A systematic review and meta-analysis of observational studies

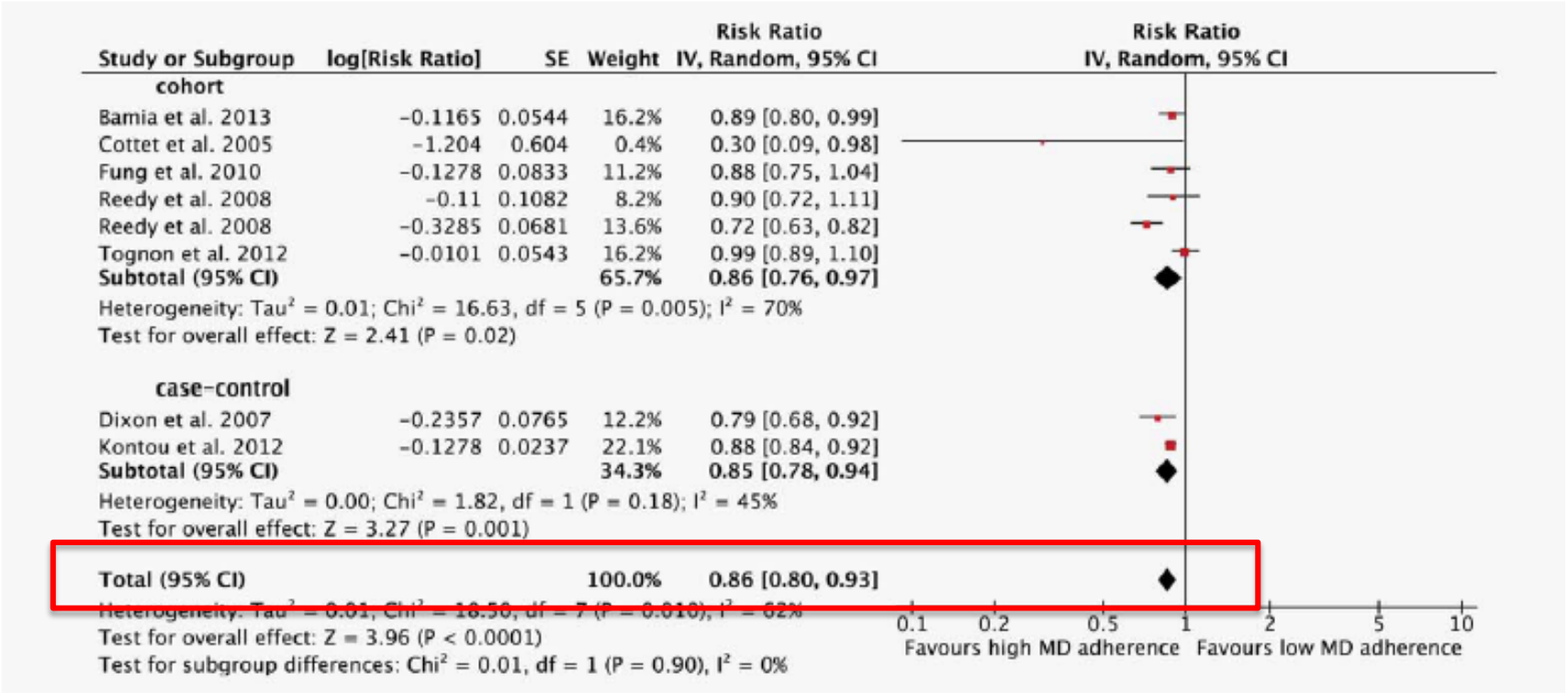

Figure 2. Forest plot showing pooled relative risks (RRs) with 95% CI for risk of colorectal cancer for five cohort and two case–control studies. I^2: inconsistency; MD: Mediterranean diet; SE: standard error; tau: estimate between study variance. [Color figure can be viewed in the online issue, which is available at wileyonlinelibrary.com.]

IJC
International Journal of Cancer

Adherence to Mediterranean diet and risk of cancer: A systematic review and meta-analysis of observational studies

Lukas Schwingshackl and Georg Hoffmann

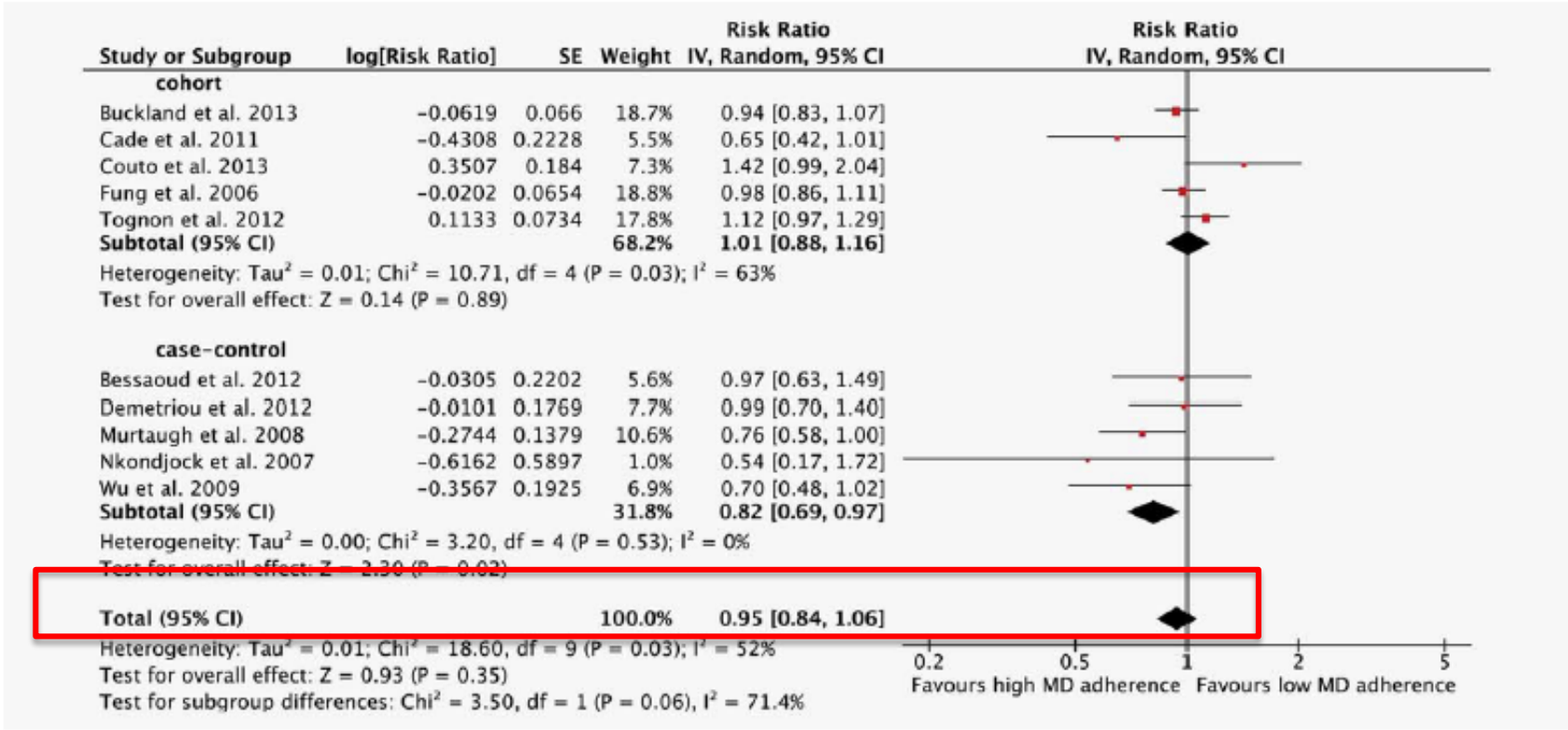

Figure 3. Forest plot showing pooled relative risks (RRs) with 95% CI for risk of breast cancer for five cohort and five case–control studies. I^2: inconsistency; MD: Mediterranean diet; SE: standard error; tau: estimate between study variance. [Color figure can be viewed in the online issue, which is available at wileyonlinelibrary.com.]

- Dieta mediterranea e salute
- Dieta mediterranea vs alimenti e salute
- Dieta mediterranea come modello mediterraneo

Italian Mediterranean Index and risk of colorectal cancer in the Italian section of the EPIC cohort

Claudia Agnoli[1], Sara Grioni[1], Sabina Sieri[1], Domenico Palli[2], Giovanna Masala[2], Carlotta Sacerdote[3,4], Paolo Vineis[4,5], Rosario Tumino[6], Maria Concetta Giurdanella[6], Valeria Pala[1], Franco Berrino[7], Amalia Mattiello[8], Salvatore Panico[8] and Vittorio Krogh[1]

Table 3. Hazard ratios (HRs) for developing colorectal cancer in relation to adherence (increasing categories) to the Italian Mediterranean Index

	Score category				*p* trend
	0–1	2–3	4–5	6–11	
Entire cohort					
Cases	53	123	172	87	
Person-years	36,640	168,269	193,671	111,962	
HR[1]	1	0.48 (0.35–0.67)	0.57 (0.42–0.78)	0.49 (0.35–0.70)	0.030
HR[2]	1	0.49 (0.35–0.67)	0.58 (0.42–0.79)	0.50 (0.35–0.71)	0.043

Int. J. Cancer: **132**, 1404–1411 (2013)

Italian Mediterranean Index and risk of colorectal cancer in the Italian section of the EPIC cohort

Claudia Agnoli[1], Sara Grioni[1], Sabina Sieri[1], Domenico Palli[2], Giovanna Masala[2], Carlotta Sacerdote[3,4], Paolo Vineis[4,5], Rosario Tumino[6], Maria Concetta Giurdanella[6], Valeria Pala[1], Franco Berrino[7], Amalia Mattiello[8], Salvatore Panico[8] and Vittorio Krogh[1]

Table 2. Hazard ratios (HRs) for developing colorectal cancer in relation to tertiles of intake of the Italian Mediterranean Index components

	Tertile			*p* trend
	I	II	III	
Pasta				
Range, g/d	0–37.9	38–71.8	71.9–431.5	
Cases	148	144	143	
Person-years	171,254	170,167	169,122	
HR[1]	1	1.01 (0.80–1.28)	0.98 (0.74–1.28)	0.878
HR[2]	1	1.01 (0.79–1.28)	0.97 (0.73–1.27)	0.810
Mediterranean vegetables				
Range, g/d	0–96.6	96.7–160.6	160.7–950.1	
Cases	155	144	136	
Person-years	168,350	170,390	171,802	
HR[1]	1	0.91 (0.72–1.15)	0.87 (0.68–1.12)	0.293
HR[2]	1	0.93 (0.74–1.17)	0.89 (0.69–1.14)	0.357
Fruit				
Range, g/d	0–249.2	249.2–391.9	391.9–3790.5	
Cases	151	151	133	
Person-years	169,057	170,060	171,425	
HR[1]	1	0.94 (0.75–1.18)	0.84 (0.66–1.08)	0.185
HR[2]	1	0.96 (0.76–1.20)	0.87 (0.68–1.12)	0.282
Legumes				
Range, g/d	0–11.8	11.9–23.5	23.6–281.4	
Cases	163	138	134	
Person-years	170,698	169,731	170,113	
HR[1]	1	0.86 (0.68–1.08)	0.88 (0.69–1.13)	0.304
HR[2]	1	0.86 (0.69–1.09)	0.89 (0.70–1.15)	0.353
Fish				
Range, g/d	0–20.1	20.2–38.5	38.6–340.3	
Cases	153	159	123	
Person-years	170,466	169,703	170,374	
HR[1]	1	1.08 (0.86–1.35)	0.88 (0.68–1.12)	0.338
HR[2]	1	1.09 (0.90–1.36)	0.88 (0.68–1.13)	0.357
Red meat				
Range, g/d	0–69	69.1–111.9	112–665.6	
Cases	145	154	136	
Person-years	168,825	169,749	170,369	
HR[1]	1	1.16 (0.92–1.46)	0.97 (0.74–1.26)	0.878
HR[2]	1	1.14 (0.91–1.44)	0.94 (0.72–1.23)	0.728
Potatoes				
Range, g/d	0–16.6	16.7–34.6	34.7–420.9	
Cases	138	154	143	
Person-years	170,317	170,240	169,985	
HR[1]	1	1.21 (0.96–1.53)	1.12 (0.87–1.44)	0.366
HR[2]	1	1.21 (0.96–1.53)	1.12 (0.87–1.44)	0.382

Italian Mediterranean Index and risk of colorectal cancer in the Italian section of the EPIC cohort

Claudia Agnoli[1], Sara Grioni[1], Sabina Sieri[1], Domenico Palli[2], Giovanna Masala[2], Carlotta Sacerdote[3,4], Paolo Vineis[4,5], Rosario Tumino[6], Maria Concetta Giurdanella[6], Valeria Pala[1], Franco Berrino[7], Amalia Mattiello[8], Salvatore Panico[8] and Vittorio Krogh[1]

Table 2. Hazard ratios (HRs) for developing colorectal cancer in relation to tertiles of intake of the Italian Mediterranean Index components (Continued)

	Tertile			*p* trend
	I	II	III	
Olive oil				
Range, g/d	0–19.3	19.4–29.8	29.9–160.4	
Cases	156	134	145	
Person-years	171,578	168,562	170,402	
HR[1]	1	0.86 (0.68–1.09)	0.87 (0.67–1.12)	0.275
HR[2]	1	0.86 (0.68–1.09)	0.88 (0.68–1.14)	0.328
Butter				
Range, g/d	0–0.2	0.3–1.3	1.4–101.1	
Cases	174	123	138	
Person-years	181,287	159,575	169,681	
HR[1]	1	0.86 (0.68–1.09)	1.00 (0.79–1.26)	0.927
HR[2]	1	0.86 (0.68–1.09)	1.00 (0.79–1.26)	0.892
Soft drinks				
Range, g/d	0	0.6–14.3	14.4–3000	
Cases	243	64	128	
Person-years	262,993	78,444	169,106	
HR[1]	1	1.21 (0.91–1.61)	0.97 (0.78–1.22)	0.928
HR[2]	1	1.21 (0.91–1.62)	0.98 (0.78–1.22)	0.937
Alcohol				
Range, g/d	0–0.71	0.71–12.3	12.3–198.6	
Cases	123	125	187	
Person-years	168,940	171,004	170,598	
HR[1]	1	1.00 (0.78–1.28)	1.23 (0.96–1.58)	0.090
HR[2]	1	1.01 (0.78–1.29)	1.23 (0.96–1.58)	0.093

Conformity to traditional Mediterranean diet and breast cancer risk in the Greek EPIC (European Prospective Investigation into Cancer and Nutrition) cohort[1–3]

Antonia Trichopoulou, Christina Bamia, Pagona Lagiou, and Dimitrios Trichopoulos

TABLE 3

Hazard ratios (95% CIs) for incident breast cancer (240 cases) in relation to Mediterranean Diet Score among 14,807 women of the Greek European Prospective Investigation into Cancer and Nutrition (EPIC) cohort study[1]

	Mediterranean Diet Score				
	0–3	4–5	6–9	2-Point increment	*P*
Overall[2]	Referent	0.93 (0.69, 1.25)	0.84 (0.59, 1.20)	0.88 (0.75, 1.03)	0.12
Excluding first year of follow-up	Referent	0.93 (0.69, 1.26)	0.83 (0.57, 1.20)	0.87 (0.74, 1.03)	0.11
By menopausal status[3]					
Pre-/perimenopausal (n = 6534)[4]	Referent	0.88 (0.56, 1.39)	1.13 (0.69, 1.85)	1.01 (0.80, 1.28)	0.91
Postmenopausal (n = 8273)[5]	Referent	0.96 (0.65, 1.42)	0.59 (0.34, 1.03)	0.78 (0.62, 0.98)	0.03

[1] Hazard ratios were derived from Cox regression.

[2,4,5] Adjusted for the same factors indicated in Table 2: [2]for overall analysis, [4]for premenopausal women, [5]for postmenopausal women.

[3] *P* for interaction = 0.05 (likelihood ratio test).

Am J Clin Nutr 2010;92:620–5.

Conformity to traditional Mediterranean diet and breast cancer risk in the Greek EPIC (European Prospective Investigation into Cancer and Nutrition) cohort[1–3]

Antonia Trichopoulou, Christina Bamia, Pagona Lagiou, and Dimitrios Trichopoulos

TABLE 2

Means and SDs of daily dietary intakes among 14,807 women, and the associated hazard ratios (HRs; 95% CIs) for incident breast cancer (240 cases) per indicated increments in daily intakes in the Greek European Prospective Investigation into Cancer and Nutrition (EPIC) cohort study[1]

			Cohort	Premenopausal	Postmenopausal	
Dietary variables	Mean ± SD	Increment[2]	HR (95% CI)[3]	HR (95% CI)[4]	HR (95% CI)[5]	P^6
Vegetables (g/d)	528.7 ± 227.8	227	0.95 (0.82, 1.11)	0.95 (0.78, 1.15)	0.91 (0.70, 1.18)	0.365
Legumes (g/d)	7.7 ± 5.7	6	0.93 (0.81, 1.08)	1.02 (0.85, 1.23)	0.79 (0.62, 1.01)	0.043
Fruit and nuts (g/d)	377.1 ± 204.1	204	1.02 (0.89, 1.17)	1.00 (0.84, 1.18)	1.07 (0.85, 1.33)	0.905
Dairy products (g/d)	214.9 ± 144.7	144	0.98 (0.85, 1.12)	0.95 (0.78, 1.15)	0.98 (0.80, 1.20)	0.818
Cereals (g/d)	144.7 ± 55.3	55	1.00 (0.86, 1.16)	1.04 (0.85, 1.27)	0.94 (0.76, 1.18)	0.283
Meat and meat products (g/d)	93.7 ± 44.6	44	0.95 (0.82, 1.11)	1.05 (0.88, 1.25)	0.83 (0.65, 1.06)	0.125
Fish and shellfish (g/d)	21.8 ± 15.7	16	1.08 (0.95, 1.21)	1.22 (1.05, 1.44)	0.94 (0.78, 1.15)	0.019
Olive oil (g/d)	44.2 ± 21.7	21	0.93 (0.80, 1.08)	1.00 (0.82, 1.22)	0.85 (0.69, 1.06)	0.106
Monounsaturated lipids (g/d)	46.7 ± 17.3	17	0.90 (0.74, 1.09)	0.99 (0.77, 1.26)	0.77 (0.57, 1.04)	0.078
Saturated lipids (g/d)	26.7 ± 11.2	11	1.02 (0.84, 1.23)	0.99 (0.78, 1.25)	1.03 (0.74, 1.43)	0.616
Monounsaturates:saturates	1.9 ± 0.5	0.5	0.92 (0.81, 1.04)	0.99 (0.82, 1.20)	0.88 (0.75, 1.03)	0.271
Ethanol (g/d)	3.5 ± 6.6	5	0.99 (0.89, 1.10)	0.98 (0.85, 1.13)	1.01 (0.86, 1.17)	0.868
Energy intake (kcal/d)	1867.8 ± 568.3	568	1.03 (0.90, 1.17)	1.10 (0.93, 1.30)	0.93 (0.76, 1.14)	0.260

Am J Clin Nutr 2010;92:620–5.

Red meat, Mediterranean diet and lung cancer risk among heavy smokers in the COSMOS screening study

P. Gnagnarella[1*], P. Maisonneuve[1], M. Bellomi[2,3], C. Rampinelli[2], R. Bertolotti[4], L. Spaggiari[3,4], D. Palli[5] & G. Veronesi[4]

Table 2. Risk of lung cancers detected through repeated annual screening computed tomography according to daily quartile food density of fruits and vegetables, fish, red meat and olive oil and according to average daily tea and wine consumption

Baseline characteristics	Participants, *N*	Person-years	Lung cancers, *N* (rate per 100-year)	Model[a], HR (95% CI)	Model[b], HR (95% CI)
Fruits and vegetables					
Q1	1084	6198	58 (0.94)	1.00	1.00
Q2	1084	6234	46 (0.74)	0.72 (0.48–1.07)	0.85 (0.56–1.28)
Q3	1084	6223	41 (0.66)	0.70 (0.47–1.04)	0.89 (0.58–1.37)
Q4	1084	6209	33 (0.53)	**0.62 (0.40–0.95)**	0.85 (0.52–1.36)
P-value for trend				**0.03**	0.48
Fish					
Q1	1085	6147	54 (0.88)	1.00	1.00
Q2	1082	6241	50 (0.80)	0.85 (0.58–1.24)	0.89 (0.61–1.31)
R					
C					
Q3	1091	6261	38 (0.61)	0.75 (0.50–1.11)	0.77 (0.51–1.18)
Q4	1082	6229	36 (0.58)	**0.57 (0.37–0.89)**	0.64 (0.39–1.04)
P-value for trend				**0.01**	0.058
Tea					
None	2630	15 050	121 (0.80)	1.00	1.00
<1 cup/day	1152	6627	44 (0.66)	0.93 (0.66–1.32)	1.01 (0.71–1.44)
1+ cup/day	554	3187	13 (0.41)	**0.52 (0.29–0.92)**	**0.56 (0.31–0.99)**
P-value for trend				**0.02**	**0.04**
Wine					
<1 glass/day	1819	10 309	78 (0.76)	1.00	1.00
1 glass/day	531	3066	24 (0.78)	1.06 (0.67–1.68)	1.14 (0.72–1.80)
2 glasses/day	767	4487	21 (0.47)	**0.61 (0.38–0.99)**	0.63 (0.39–1.03)
3+ glasses/day	1219	7002	55 (0.79)	0.99 (0.69–1.41)	0.94 (0.65–1.36)
P-value for trend				0.75	0.42

Hazards ratios (HRs) and 95% confidence intervals (CIs) obtained from multivariable Cox proportional hazards regression model adjusted for [a]baseline risk probability and total energy adjusted using the nutrient-density method, and [b]fruits and vegetables, fish, red meat, olive oil, tea and wine intake.

Conclusions: Among heavy smokers, high red meat consumption and low adherence to a Mediterranean diet are associated with increased risk of lung cancer.

Annals of Oncology 24: 2606–2611, 2013

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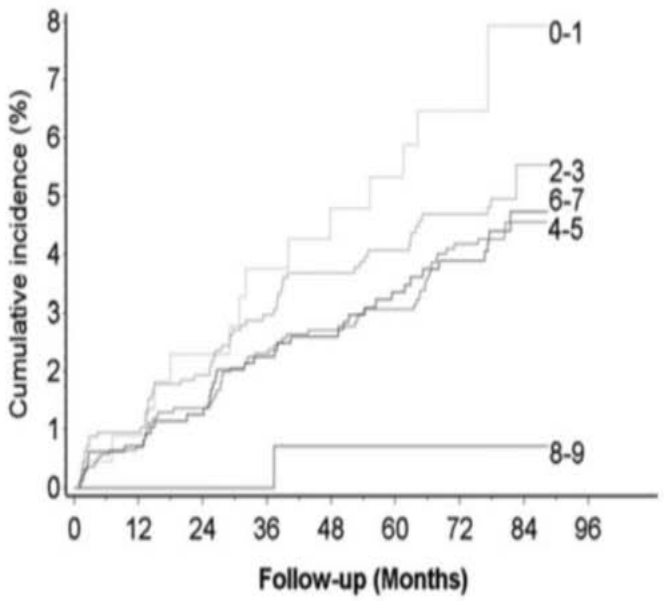
Red meat, Mediterranean diet and lung cancer risk among heavy smokers in the COSMOS screening study

P. Gnagnarella[1*], P. Maisonneuve[1], M. Bellomi[2,3], C. Rampinelli[2], R. Bertolotti[4], L. Spaggiari[3,4], D. Palli[5] & G. Veronesi[4]



Baseline characteristics	Participants *N*	Person-Years	Lung cancers *N* (rate/100-year)	Model HR (95% CI)[a]
aMED score				
0-1	224	1,275	15 (1.18)	1.00
2-3	1258	7,256	58 (0.80)	0.66 (0.37-1.16)
4-5	1722	9,827	66 (0.67)	0.58 (0.33-1.01)
6-7	974	5,579	38 (0.68)	0.63 (0.35-1.14)
8-9	158	927	1 (0.11)	**0.10 (0.01-0.77)**
P for trend				**0.045**

[a] Hazards ratios (HRs) and 95% confidence intervals (CIs) obtained from multivariable Cox proportional hazards regression model adjusted for baseline risk probability and total energy.

Figure 1. Cumulative incidence of lung cancers detected through repeated annual screening computed tomography according to the alternate Mediterranean diet (aMED) score.

Annals of Oncology 24: 2606–2611, 2013

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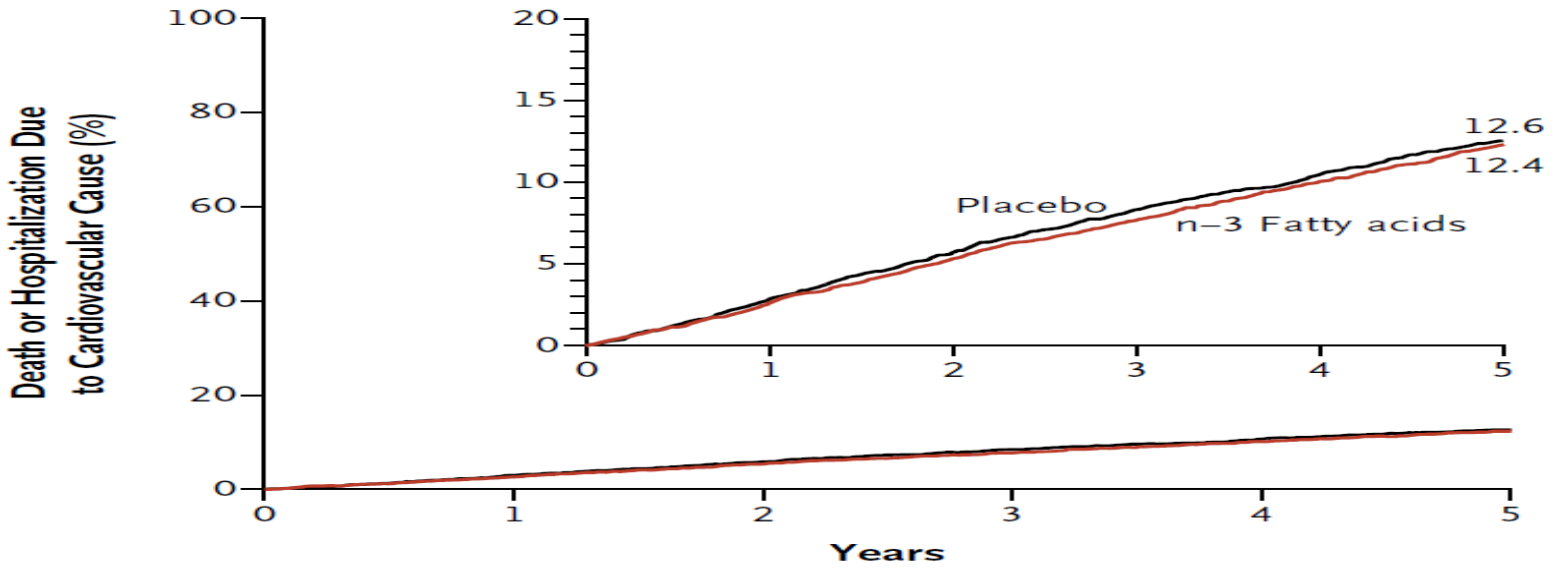
n–3 Fatty Acids in Patients with Multiple Cardiovascular Risk Factors

The Risk and Prevention Study Collaborative Group*



No. at Risk

n–3 Fatty acids	6239	5910	5566	5216	4863	2992
Placebo	6266	5908	5528	5137	4780	2926

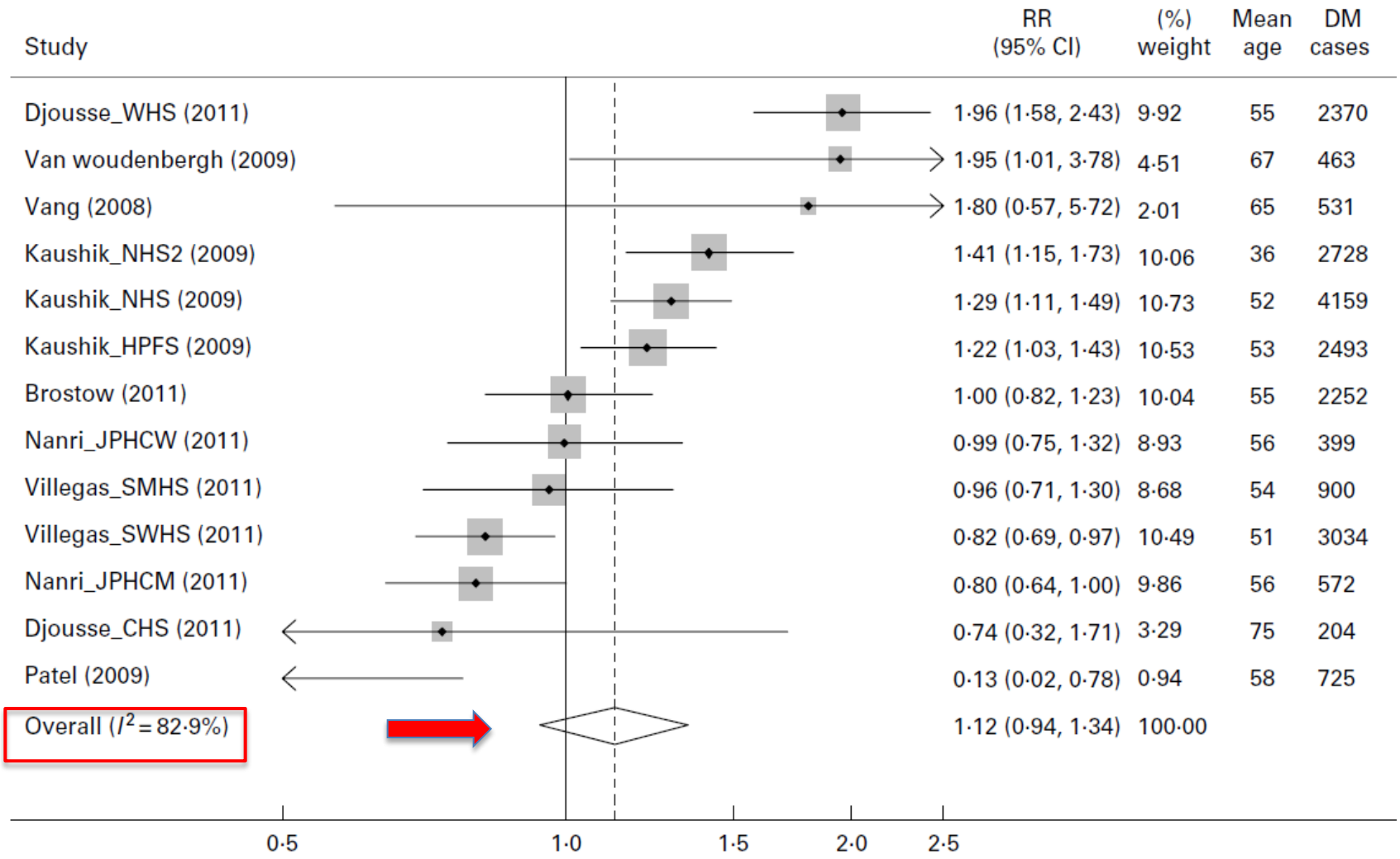
Figure 1. Kaplan–Meier Curves for Death or First Hospitalization Due to Cardiovascular Cause.

The median duration of follow-up was 5.0 years (interquartile range, 4.0 to 5.5). The primary end point, a composite of death from cardiovascular causes or hospital admission for cardiovascular causes, occurred in 1478 patients (11.8%), including 733 of 6239 patients who received n–3 fatty acids (11.7%) and 745 of 6266 who received placebo (11.9%).

N Engl J Med 2013;368:1800-8.

Omega-3 fatty acids and incident type 2 diabetes: a systematic review and meta-analysis

Jason H. Y. Wu[1,2*], Renata Micha[1], Fumiaki Imamura[1], An Pan[3], Mary L. Biggs[4], Owais Ajaz[5,6], Luc Djousse[5,6], Frank B. Hu[1,3,7] and Dariush Mozaffarian[1,3,7,8]



British Journal of Nutrition (2012), **107**, S214–S227

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Priority Updates from the Research Literature
from the Family Physicians Inquiries Network

Should you still recommend omega-3 supplements?

Probably not. A new meta-analysis adds to a growing body of evidence that omega-3 fatty acids do little to protect against heart disease.

PRACTICE CHANGER

Stop recommending omega-3 fatty acid supplements for cardiovascular protection. They have no significant impact on all-cause mortality, acute myocardial infarction, sudden death, or stroke.[1]

STRENGTH OF RECOMMENDATION

A: Based on a meta-analysis of randomized controlled trials (RCTs).

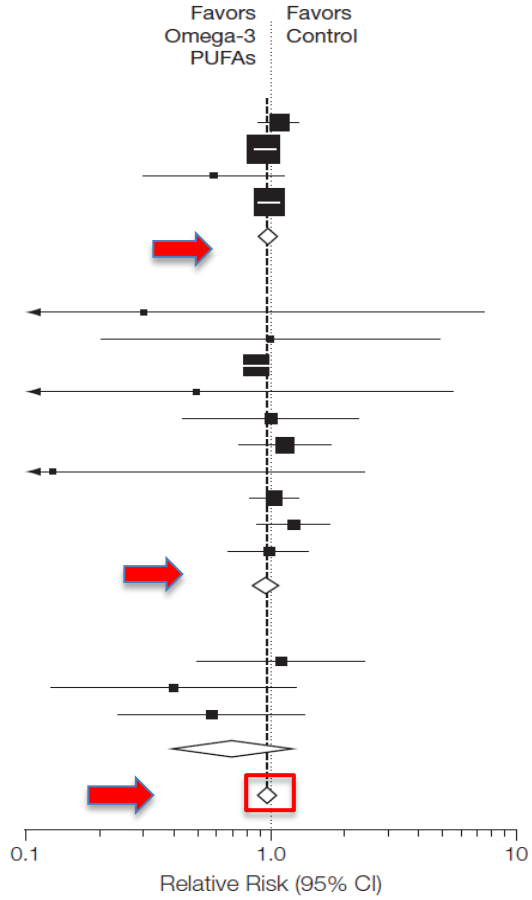
Rizos E, Ntzani E, Bika E, et al. Association between omega-3 fatty acid supplementation and risk of major cardiovascular disease events: a systematic review and meta-analysis. *JAMA*. 2012;308:1024-1033.

Association Between Omega-3 Fatty Acid Supplementation and Risk of Major Cardiovascular Disease Events

A Systematic Review and Meta-analysis

Figure 4. Meta-analysis of Omega-3 Supplements for All-Cause Mortality

	No. of Events		No. of Participants			
	Omega-3 PUFAs	Control	Omega-3 PUFAs	Control	RR (95% CI)	Weight, %
Mixed prevention						
Yokoyama et al,[3] 2007	286	265	9326	9319	1.08 (0.91-1.27)	10.00
Tavazzi et al,[2] 2008	955	1014	3494	3481	0.94 (0.87-1.01)	28.99
Einvik et al,[37] 2010	14	24	282	281	0.58 (0.31-1.10)	0.80
ORIGIN,[5] 2012	951	964	6281	6255	0.98 (0.90-1.07)	26.23
Subtotal: I^2 = 38.9%, P = .18	2206	2267	19383	19336	0.97 (0.90-1.05)	66.02
Secondary prevention						
Sacks et al,[27] 1995	0	1	31	28	0.30 (0.01-7.13)	0.03
Leng et al,[26] 1998	3	3	60	60	1.00 (0.21-4.76)	0.13
Marchioli et al,[1] 1999	472	545	5666	5658	0.86 (0.77-0.97)	16.80
von Schacky et al,[25] 1999	1	2	112	111	0.50 (0.05-5.39)	0.06
Nilsen et al,[24] 2001	11	11	150	150	1.00 (0.45-2.24)	0.50
Svensson et al,[32] 2006	34	30	103	103	1.13 (0.75-1.70)	1.91
Garbagnati et al,[38] 2009	0	3	20	18	0.13 (0.01-2.34)	0.04
Kromhout et al,[4] 2010	186	184	2404	2433	1.02 (0.84-1.24)	7.45
Rauch et al,[36] 2010	88	70	1919	1885	1.23 (0.91-1.68)	3.28
Galan et al,[29] 2010	58	59	1253	1248	0.98 (0.69-1.39)	2.51
Subtotal: I^2 = 1.5%, P = .43	853	908	11718	11694	0.95 (0.86-1.04)	32.71
ICD						
Leaf et al,[34] 2005	13	12	200	202	1.09 (0.51-2.34)	0.56
Raitt et al,[33] 2005	4	10	100	100	0.40 (0.13-1.23)	0.26
Brouwer et al,[35] 2006	8	14	273	273	0.57 (0.24-1.34)	0.45
Subtotal: I^2 = 19.9%, P = .29	25	36	573	575	0.69 (0.39-1.23)	1.27
Overall: I^2 = 11.7%, P = .32	3084	3211	31674	31605	0.96 (0.91-1.02)	100.00



JAMA. 2012;308(10):1024-1033

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Multiple dietary supplements do not affect metabolic and cardio-vascular health

Andreea Soare[1,2*], Edward P. Weiss[1,3*], John O. Holloszy[1], and Luigi Fontana[1,4,5]

Table 1. Effect of 6 months of nutritional supplements or control on indices of arterial stiffness, vasomotor function, and blood pressure.

	Supplements(n=28)	Control (n=26)	Adjusted Difference Between Groups	Between Group *P* value
Pulse wave velocity, m/s				
Baseline	5.4 ± 0.3	5.2 ± 0.2		
6 months	4.8 ± 0.3	5.3 ± 0.2		
Change	-0.5 ± 0.4	0.1 ± 0.3	-0.3 ± 0.4	0.36
Augmentation index, %				
Baseline	11.7 ± 2.6	12.3 ± 2.8		
6 months	12.5 ± 2.8	13.0 ± 2.3		
Change	0.8 ± 1.1	0.7 ± 1.1	0.4 ± 1.5	0.77
Flow-mediated dilation, %				
Baseline	5.0 ± 0.5	4.1 ± 0.4		
6 months	4.5 ± 0.4	4.4 ± 0.3		
Change	-0.5 ± 0.5	0.3 ± 0.3	-0.3 ± 0.5	0.54
GTN-mediated dilation, %				
Baseline	16.1 ± 1.3	14.6 ± 1.2		
6 months	14.2 ± 1.6	13.3 ± 0.9		
Change	-1.9 ± 1.1	-1.3 ± 1.4	-0.2 ± 1.7	0.93
Systolic BP, mmHg				
Baseline	108 ± 2	109 ± 2		
6 months	108 ± 2	107 ± 3		
Change	0 ± 1	-2 ± 1	1 ± 2	0.48
Diastolic BP, mmHg				
Baseline	69 ± 1	66 ± 2		
6 months	69 ± 1	64 ± 2		
Change	0 ± 1	-2 ± 1*	2 ± 1	0.08

*Significant ($p \leq 0.05$) within-group change.

AGING, September 2013, Vol. 5 No.9

- Dieta mediterranea e salute
- Dieta mediterranea vs alimenti e salute
- Dieta mediterranea come modello mediterraneo

Dietary pattern analysis: a new direction in nutritional epidemiology

Frank B. Hu

- Recently, dietary pattern analysis has emerged as an **alternative and complementary approach** to examining the relationship between diet and the risk of chronic diseases.
- **Instead of looking at individual nutrients or foods**, pattern analysis examines the **effects of overall diet**.
- Conceptually, **dietary patterns represent a broader picture of food and nutrient consumption**, and **may thus be more predictive of disease risk than individual foods or nutrients**.
- Several studies have suggested that dietary patterns derived from factor or cluster analysis predict disease risk or mortality.

Current Opinion in Lipidology 2002, 13:3–9

Modello Mediterraneo

Traditional Mediterranean diet and longevity in the elderly: a review

Antonia Trichopoulou* †

The traditional Mediterranean diet may be thought of as having eight components:

1. High ratio of monounsaturated to saturated dietary lipids (mainly olive oil);
2. Moderate ethanol consumption;
3. High consumption of legumes;
4. High consumption of non-refined cereals, including bread;
5. High consumption of fruits;
6. High consumption of vegetables;
7. Low consumption of meat and meat products;
8. Moderate consumption of milk and dairy products.

Fish intake is also a desirable characteristic of the Mediterranean diet, but has depended on the proximity to the sea.

Public Health Nutrition 2004; 7: 943-947

Modello Mediterraneo

N Engl J Med 2013;368:1279-90.

Table 1. Summary of Dietary Recommendations to Participants in the Mediterranean-Diet Groups and the Control-Diet Group.

Food	Goal
Mediterranean diet	
Recommended	
Olive oil*	≥4 tbsp/day
Tree nuts and peanuts†	≥3 servings/wk
Fresh fruits	≥3 servings/day
Vegetables	≥2 servings/day
Fish (especially fatty fish), seafood	≥3 servings/wk
Legumes	≥3 servings/wk
Sofrito‡	≥2 servings/wk
White meat	Instead of red meat
Wine with meals (optionally, only for habitual drinkers)	≥7 glasses/wk
Discouraged	
Soda drinks	<1 drink/day
Commercial bakery goods, sweets, and pastries§	<3 servings/wk
Spread fats	<1 serving/day
Red and processed meats	<1 serving/day
Low-fat diet (control)	
Recommended	
Low-fat dairy products	≥3 servings/day
Bread, potatoes, pasta, rice	≥3 servings/day
Fresh fruits	≥3 servings/day
Vegetables	≥2 servings/wk
Lean fish and seafood	≥3 servings/wk
Discouraged	
Vegetable oils (including olive oil)	≤2 tbsp/day
Commercial bakery goods, sweets, and pastries§	≤1 serving/wk
Nuts and fried snacks	≤1 serving /wk
Red and processed fatty meats	≤1 serving/wk
Visible fat in meats and soups¶	Always remove
Fatty fish, seafood canned in oil	≤1 serving/wk
Spread fats	≤1 serving/wk
Sofrito‡	≤2 servings/wk

* The amount of olive oil includes oil used for cooking and salads and oil consumed in meals eaten outside the home. In the group assigned to the Mediterranean diet with extra-virgin olive oil, the goal was to consume 50 g (approximately 4 tbsp) or more per day of the polyphenol-rich olive oil supplied, instead of the ordinary refined variety, which is low in polyphenols.

† For participants assigned to the Mediterranean diet with nuts, the recommended consumption was one daily serving (30 g, composed of 15 g of walnuts, 7.5 g of almonds, and 7.5 g of hazelnuts).

‡ Sofrito is a sauce made with tomato and onion, often including garlic and aromatic herbs, and slowly simmered with olive oil.

§ Commercial bakery goods, sweets, and pastries (not homemade) included cakes, cookies, biscuits, and custard.

¶ Participants were advised to remove the visible fat (or the skin) of chicken, duck, pork, lamb, or veal before cooking and the fat of soups, broths, and cooked meat dishes before consumption.

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THE COCHRANE COLLABORATION®

'Mediterranean' dietary pattern for the primary prevention of cardiovascular disease (Review)

Rees K, Hartley L, Flowers N, Clarke A, Hooper L, Thorogood M, Stranges S

Modello Mediterraneo

At least two components from the following list were required to reach our definition of a **Mediterranean-style dietary pattern** (Helsing 1989; Nestle 1995;Serra-Majem 1993; Willett 1995):

1. high monounsaturated/saturated fat ratio (use of **olive oil** as main cooking ingredient);
2. **low to moderate red wine** consumption;
3. high consumption of **legumes**;
4. high consumption of **grains and cereals**;
5. high consumption of **fruits and vegetables**;
6. **low consumption of meat and meat products** and **increased consumption of fish**;
7. **moderate** consumption of **milk and dairy products**.

Cochrane Database Syst Rev. **2013**;8:CD009825.

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'Mediterranean' dietary pattern for the primary prevention of cardiovascular disease (Review)

Rees K, Hartley L, Flowers N, Clarke A, Hooper L, Thorogood M, Stranges S

- We intended to consider studies examining dietary advice to follow a **Mediterranean-style diet separately from studies examining the provision of foods**, but, for all studies that met our inclusion criteria, the intervention was dietary advice.
- It was also our intention **to stratify results according to the number of components constituting the Mediterranean dietary pattern**, the intensity and duration of the intervention and follow-up period, and the effects of age and gender.
- However, there were insufficient trials that met the inclusion criteria to perform these analyses.
- **We did consider interventions describing themselves as a Mediterranean diet or style of diet including the core components of increased fruit and vegetable consumption and exchange of saturated fat for monounsaturated fat**, compared with other interventions that met our criteria, in subgroup analyses.

Cochrane Database Syst Rev. **2013**;8:CD009825.

La Dieta Mediterranea è patrimonio immateriale dell'Umanità

United Nations Educational, Scientific and Cultural Organization

- La Dieta Mediterranea rappresenta **un insieme di competenze, conoscenze, pratiche e tradizioni che vanno dal paesaggio alla tavola, includendo le colture, la raccolta, la pesca, la conservazione, la trasformazione, la preparazione e, in particolare, il consumo di cibo.**

- La Dieta Mediterranea è caratterizzata da un **modello nutrizionale** rimasto costante nel tempo e nello spazio.

- Tuttavia, la **Dieta Mediterranea (dal greco "diaita", o stile di vita)** è molto più che un semplice alimento.

- La Dieta si fonda nel rispetto per il territorio e la biodiversità, e garantisce la conservazione e lo sviluppo delle attività tradizionali e dei mestieri collegati alla pesca e all'agricoltura nelle comunità del Mediterraneo.

http://www.unesco.it/cni/index.php/archivio-news/174-la-dieta-mediterranea-e-patrimonio-immateriale-dellumanita

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The Mediterranean Diets: What Is So Special about the Diet of Greece? The Scientific Evidence[1]

J. Nutr. 131: 3065S–3073S, 2001.

Artemis P. Simopoulos[2]

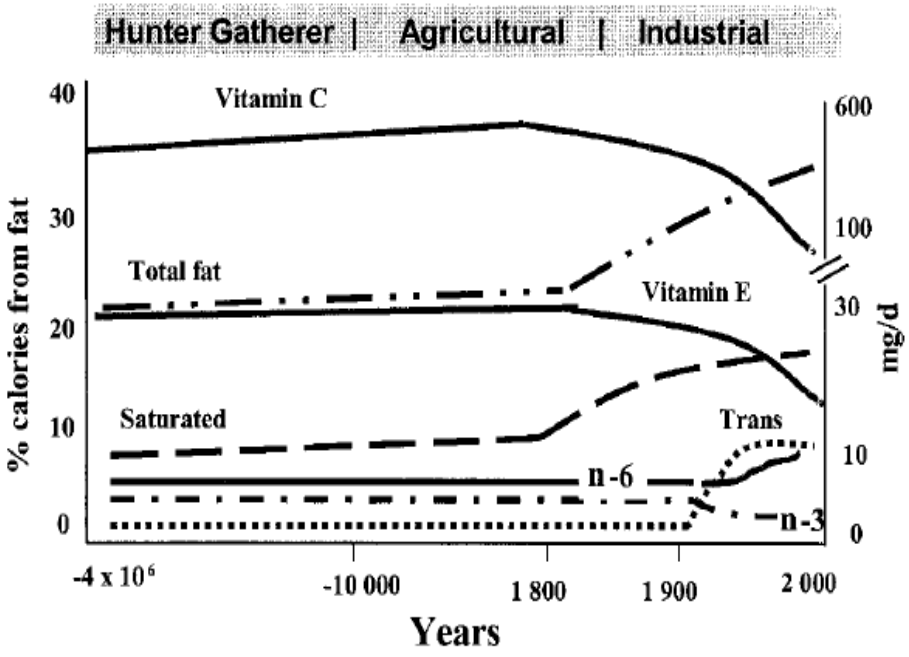


FIGURE 1 Hypothetical scheme of fat, fatty acid (n-6, n-3, *trans* and total) intake (as percentage of energy from fat) and intake of vitamins E and C (mg/d). Data were extrapolated from cross-sectional analyses of contemporary hunter-gatherer populations and from longitudinal observations and their putative changes during the preceding 100 y (12).

TABLE 1

Ratios of (n-6) to (n-3) fatty acids in various populations

Population	(n-6):(n-3)	Reference
Paleolithic	0.79	8
Greece before 1960	1.00–2.00	9
Current United States	16.74	8
Current United Kingdom and northern Europe	15.00	10
Current Japan	4.00	11

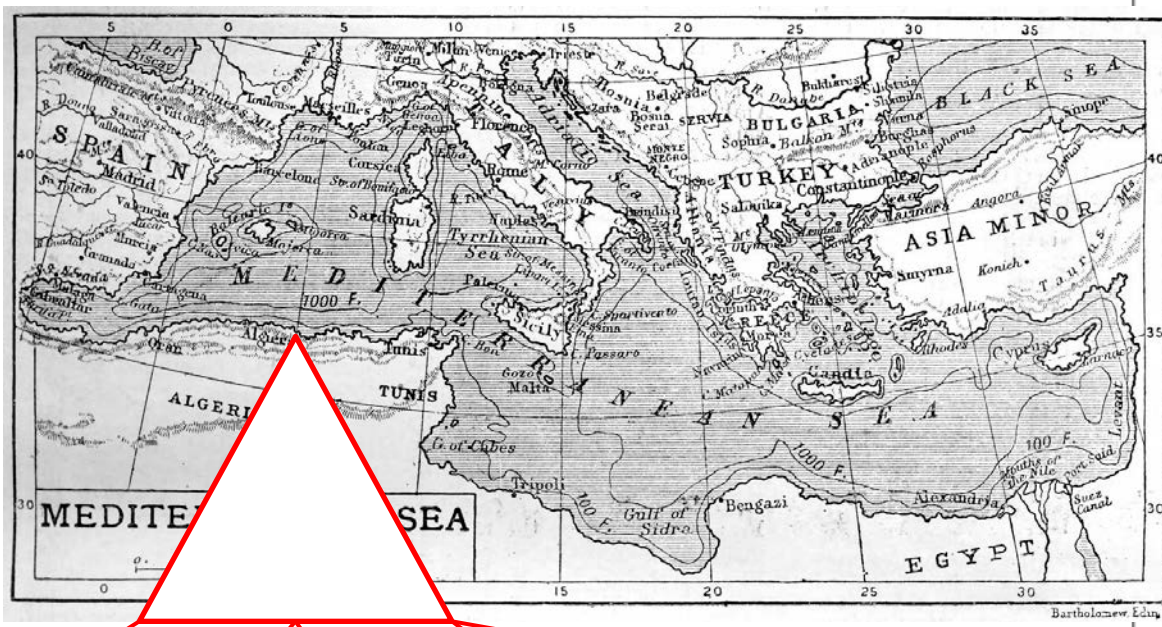
Piramide Alimentare

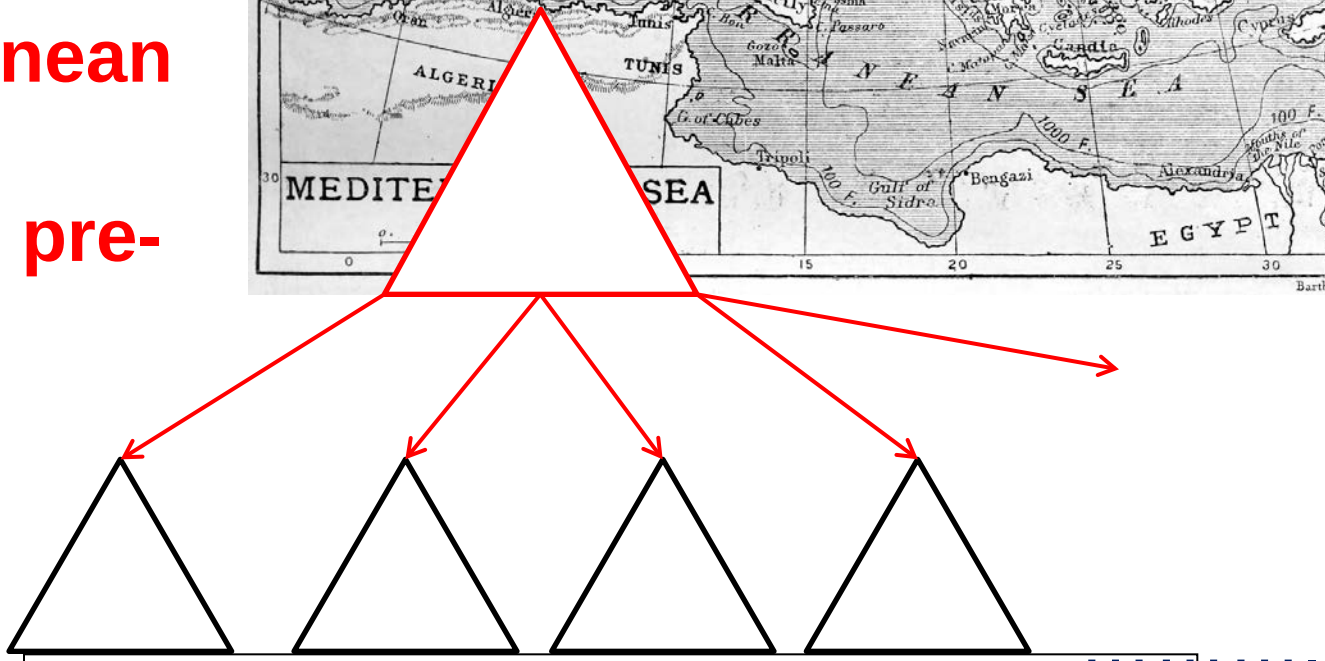
- è un grafico con cui si propone di elaborare un regime alimentare onnivoro equilibrato;
- tale aiuto grafico è stato concepito per invitare la popolazione a seguire i consigli dietetici proposti da un organismo o una società qualificata in materia di salute;
- per interpretarla, si parte dal presupposto che gli alimenti situati al vertice della piramide siano quelli che dovrebbero essere consumati in piccole quantità e, di conseguenza, gli alimenti posti nella parte bassa siano quelli da consumare con più frequenza e in quantità maggiori.

Evolution of the Mediterranean Diet Pyramids

Theoretical, Original "Platonic" Mediterranean Diet

***Not* Crete pre-1960**





Practical, Country specific variations

Trichopolou & Lagiou. Nutr Rev 55: 383, 1997

A proposed Biblical Diet Pyramid

Wine, Water

Honey, Date, Dried Fig, Raisins, Carob

Pomegranate, Fig, Grapes

Leek, Onion, Garlic Cucumber, Olives

Meat

Sweet

Egg

Poultry

Fish

Milk, Cheese, Yoghurt

Olive oil

Fruit

Beans, legumes, lentils, nuts

Vegetables

Bread, bulgur, barley

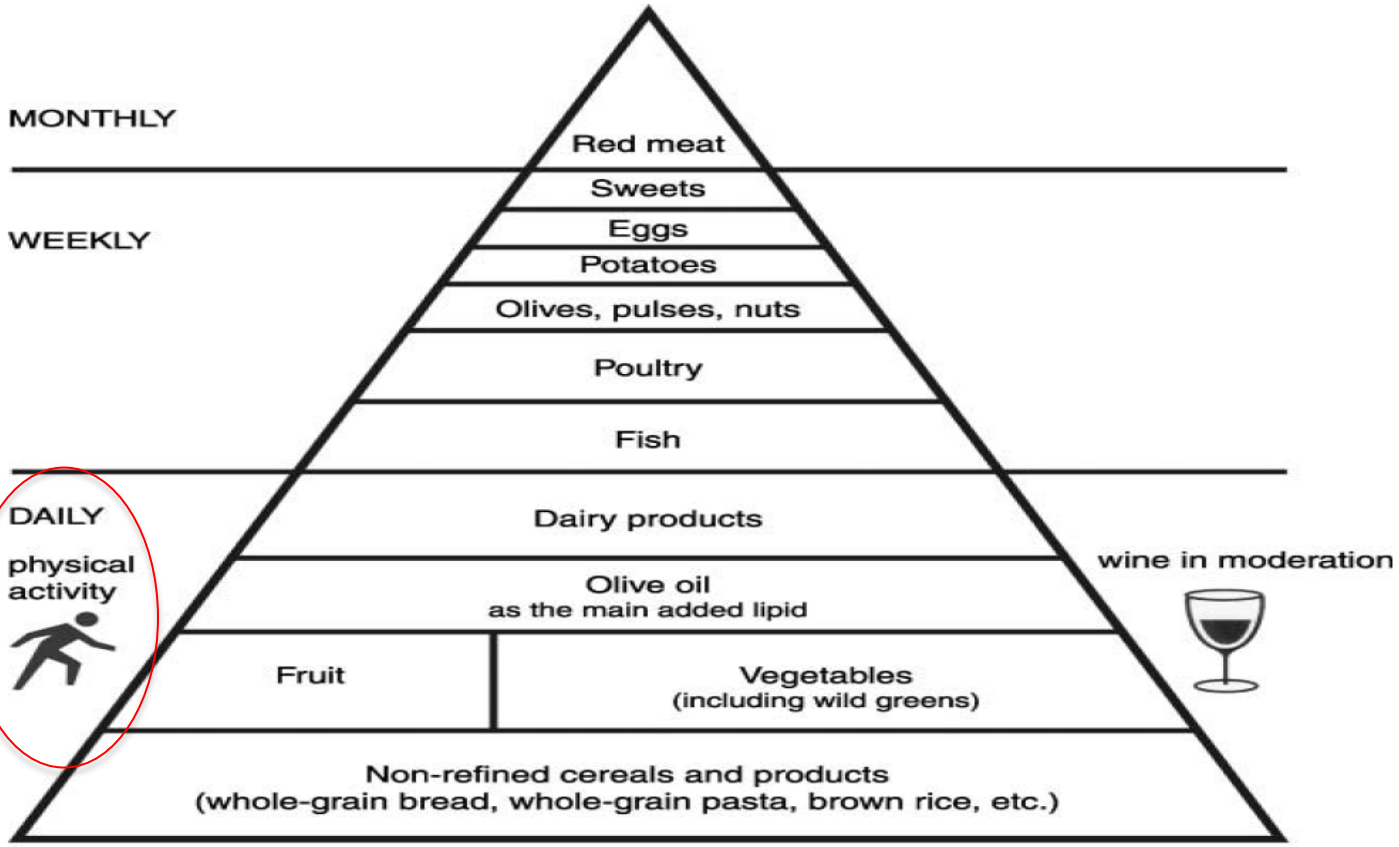
Exercise

2 meals/d
Day of Rest

Berry et al. Public Health Nutrition 2011; 14: 2288-95

Considerazioni relative all'evoluzione della dieta mediterranea

- Evidenze scientifiche & impatto sullo stato di salute
- Nutrienti vs Alimenti
- "Piramidi" Paese-specifiche
- Biodiversità
- Fattori socio-economici (*food security*)
- Politiche agricole: produzione & industria alimentare
- Politiche agricole: produzione & sostenibilità
- Applicabilità "alla maggioranza dei popoli del bacino Mediterraneo"



Also remember to :

- drink plenty of water
- avoid salt and replace it by hernbs (e.g oregano, basil, thyme, etc.)

Public Health Nutrition 2004; 7: 943-947

Public Health Nutrition: 14(12A), 2274–2284 doi:10.1017/S1368980011002515

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Anna Bach-Faig[1], Elliot M Berry[2], Denis Lairon[3], Joan Reguant[1], Antonia Trichopoulou[4], Sandro Dernini[5,6], F Xavier Medina[7], Maurizio Battino[8], Rekia Belahsen[9], Gemma Miranda[1] and Lluís Serra-Majem[1,10,*] on behalf of the Mediterranean Diet Foundation Expert Group

[1]Mediterranean Diet Foundation, Barcelona, Spain: [2]Department of Human Nutrition and Metabolism, Braun School of Public Health, Hebrew University-Hadassah Medical School, Jerusalem, Israel: [3]Research Unit 1025 Inserm/1260 Inra/"Human Nutrition and Lipids: Bioavailability, Metabolism and Regulations", Faculté de Médecine, Université de la Méditerranée, Marseille, France: [4]Hellenic Health Foundation, Athens, Greece: [5]Forum on Mediterranean Food Cultures, Rome, Italy: [6]Interuniversity International Center for Mediterranean Food Cultures Studies (CIISCAM), Sapienza University of Rome, Italy: [7]Department of Food Systems, Culture and Society, Faculty of Health Sciences, Universitat Oberta de Catalunya (UOC), Barcelona, Spain: [8]Department of Biochemistry, Università Politecnica delle Marche, Ancona, Italy: [9]Department of Biology, Faculty of Sciences, Chouaïb Doukkali University, El Jadida, Morocco: [10]Department of Clinical Sciences, University of Las Palmas de Gran Canaria, PO Box 550, 35080, Las Palmas de Gran Canaria, Spain

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Mediterranean diet pyramid: a lifestyle for today
guidelines for adult population

Serving size based on frugality and local habits

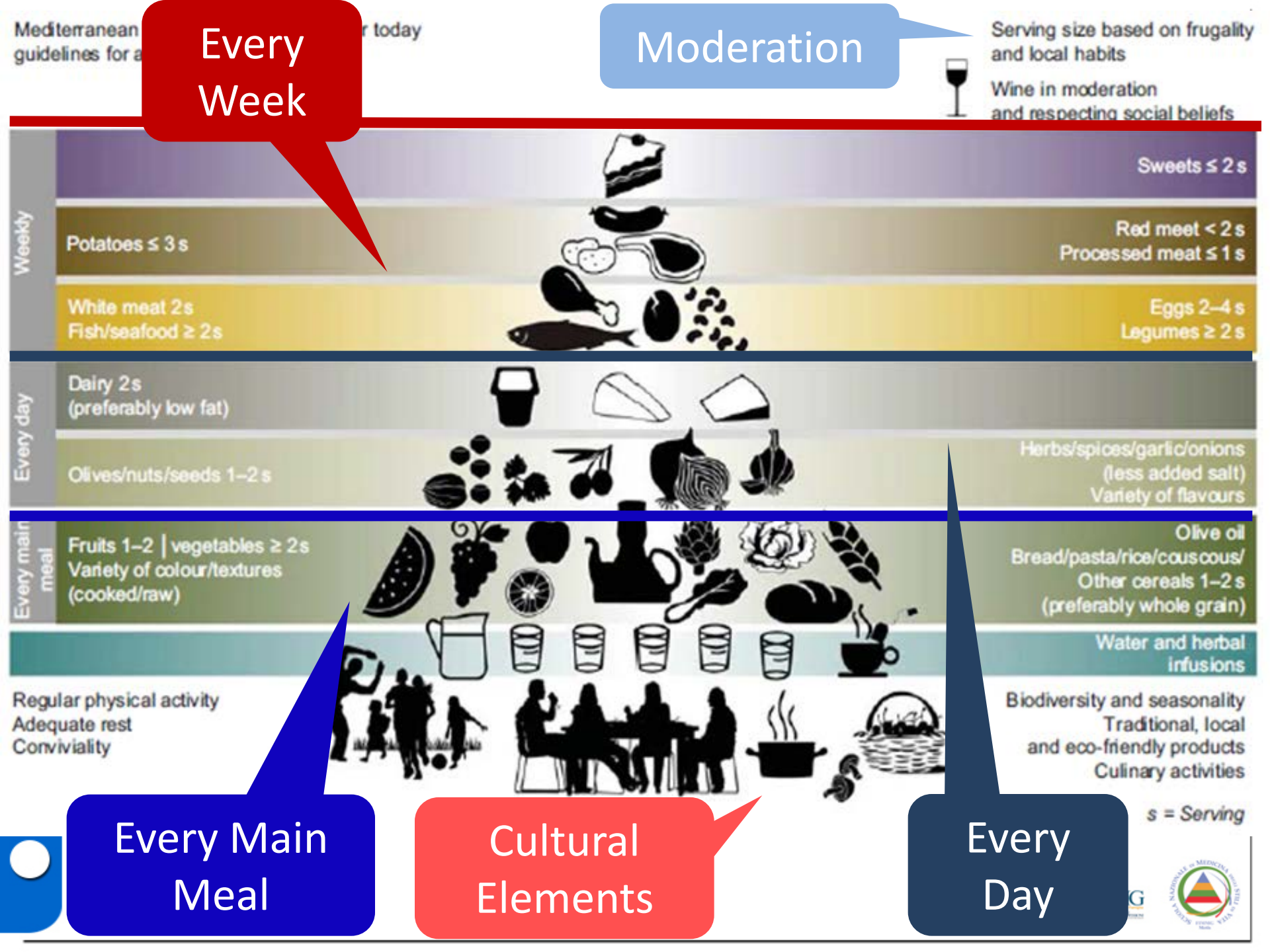
Wine in moderation and respecting social beliefs

Regular physical activity
Adequate rest
Conviviality

Biodiversity and seasonality
Traditional, local and eco-friendly products
Culinary activities

2010 edition

s = Serving


Mediterranean
guidelines for a
r today
Every Week
Moderation
Serving size based on frugality and local habits
Wine in moderation and respecting social beliefs
Weekly
Sweets ≤ 2 s
Potatoes ≤ 3 s
Red meet < 2 s
Processed meat ≤ 1 s
White meat 2 s
Fish/seafood ≥ 2 s
Eggs 2–4 s
Legumes ≥ 2 s
Every day
Dairy 2 s
(preferably low fat)
Olives/nuts/seeds 1–2 s
Herbs/spices/garlic/onions
(less added salt)
Variety of flavours
Every main meal
Fruits 1–2 | vegetables ≥ 2 s
Variety of colour/textures
(cooked/raw)
Olive oil
Bread/pasta/rice/couscous/
Other cereals 1–2 s
(preferably whole grain)
Water and herbal infusions
Regular physical activity
Adequate rest
Conviviality
Biodiversity and seasonality
Traditional, local
and eco-friendly products
Culinary activities
s = Serving
Every Main Meal
Cultural Elements
Every Day

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Every day:

The **three main meals** should contain three basic elements, which can also be found throughout the day:

- **Cereals.** One or two servings per meal in the form of bread, pasta, rice, couscous and others. Preferably whole grain, since some valuable nutrients (magnesium, phosphorus, etc.) and fibre can be lost during processing.
- **Vegetables**. Present at lunch and dinner; or more than two servings per meal, at least one of the serving should be raw. A variety of colours and textures provide a diversity of antioxidants and protective compounds.
- **Fruit.** One or two servings per meal. Should be chosen as the most frequent dessert.

A daily intake of **1·5–2·0 liter of water** should be guarantied. A good hydration is essential to maintain the corporal water equilibrium, although needs may vary among people because of age, physical activity, personal circumstances and weather conditions. As well as water, non-sugar rich herbal infusions and broths (with low fat and salt content) may complete the requirements.

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- **Dairy products. Prefer it** in the form of **low fat** yoghurt, cheese and other fermented dairy products. They contribute to bone health, but can also be an important source of saturated fat.

- **Olive oil** is located at the centre of the pyramid; should be the **principal source of dietary lipids** because of its high nutritional quality (especially extra virgin). Its unique composition gives it a high resistance to cooking temperatures and should be used for cooking as well as dressings (one tablespoon per person).

- **Spices, herbs, garlic and onions** are a good way to introduce a variety of flavours and palatability to dishes and contribute to the reduction of salt addition. **Olives, nuts and seeds** are good sources of healthy lipids, proteins, vitamins, minerals and fibre. A reasonable consumption of olives, nuts and seeds (such as a handful) make for a healthy snack choice.

- Respecting **religious and social beliefs**, a moderate consumption of **wine and other fermented beverages** (one glass per day for women and two glasses per day for men, as a generic reference) during meals is recommended.

Weekly:

A variety of plant and animal origin proteins should be consumed. Mediterranean traditional dishes do not usually have animal origin protein foods as the main ingredient but as a tasty source.

- **Fish** (two or more servings), **white meat** (two servings) and **eggs** (two to four servings) are good sources of animal protein. Fish and shellfish are also a good source of healthy proteins and lipids.

- Consumption of **red meat** (less than two servings, preferably lean cuts) and processed meats (less than one serving) **should be in smaller quantity and frequency.**

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Nutritional Recommendations for Cardiovascular Disease Prevention

Sigal Eilat-Adar [1,*], Tali Sinai [2], Chaim Yosefy [3,4] and Yaakov Henkin [4,5]

Table 4. Level of evidence and classes of recommendations for food patterns.

Food pattern	Recommendations	Strength	Level of evidence
Low-fat diet	Low-fat diet with restricted calories may present a healthy alternative to the typical Western diet. It may improve quality and life expectancy in healthy people, as well as in patients with overweight, diabetes, and CVD.	II a	**A**
Low-carbohydrate Diet	In the short-run, low-carbohydrate diets lead to a greater weight loss compared to low-fat diets. Some studies have shown that this advantage is retained at 2 years but not at longer follow-up periods	II b	A
	Low-carbohydrate diets are preferable to a low-fat diet in reducing TG levels and increasing HDL-C blood levels. It should be emphasized that carbohydrates should preferably be replaced by unsaturated vegetable fats.	II a	A
	Low-carbohydrate diets, which include 30%–40% of calories from carbohydrates and are low in saturated fat and high in monounsaturated fat, were found to be safe in healthy and overweight individuals at follow-up up to 4 years.	II a	A
Mediterranean Diet	A Mediterranean diet with restricted calories may present a healthy alternative to the typical Western diet. It may improve quality and life expectancy in healthy people, as well as in patients with overweight, diabetes, and CVD.	II a	A
	Mediterranean diets are preferable to a low-fat diet in reducing TG levels, increasing HDL-C blood levels, and improving insulin sensitivity.	II a	A
DASH Diet	The DASH diet is recommended to prevent hypertension and lower blood pressure.	I	A
	The diet should be accompanied by lifestyle changes such as: weight reduction in overweight people, increased physical activity, sodium restriction, and alcohol avoidance.	I	A

MD adherence score

the MD score (MDS) elaborated by Trichopoulou et al.

Scoring was based on the intake of the following **nine items**:

- vegetables
- legumes
- fruit and nuts
- dairy products
- cereals
- meat and meat products
- fish
- alcohol
- the ratio of monounsaturated: saturated fat

For most items, consumption **above the study median received 1 point**; all other intakes received 0 point.

For dairy products, meat and meat products, consumption **below the median** received **1 point**. Medians are gender specific.

For ethanol, men who consumed 10–50 g/day and women who consumed 5–25 g/day received 1 point; otherwise, the score was 0.

The possible **scores ranged between 0 and 9**, the latter reflecting the maximal adherence.

N Engl J Med 2003;348:2599-608.

Adherence to a Mediterranean Diet and Survival in a Greek Population

Antonia Trichopoulou, M.D., Tina Costacou, Ph.D., Christina Bamia, Ph.D., and Dimitrios Trichopoulos, M.D.

Table 2. Daily Dietary Intake of Several Food Groups in Relation to Mediterranean-Diet Score.

Dietary Variable	Men				Women			
	All	Diet Score of 0–3 (N=2457)	Diet Score of 4–5 (N=3808)	Diet Score of 6–9 (N=2630)	All	Diet Score of 0–3 (N=4391)	Diet Score of 4–5 (N=5680)	Diet Score of 6–9 (N=3077)
		number (percent)				*number (percent)*		
Vegetables								
Median (g/day)	549.9				499.6			
≥Median		452 (18)	1892 (50)	2104 (80)		893 (20)	3094 (54)	2587 (84)
<Median		2005 (82)	1916 (50)	526 (20)		3498 (80)	2586 (46)	490 (16)
Legumes								
Median (g/day)	9.1				6.7			
≥Median		569 (23)	1920 (50)	1996 (76)		1110 (25)	3136 (55)	2436 (79)
<Median		1888 (77)	1888 (50)	634 (24)		3281 (75)	2544 (45)	641 (21)
Fruits and nuts								
Median (g/day)	362.5				356.3			
≥Median		572 (23)	1885 (50)	1991 (76)		1141 (26)	3015 (53)	2418 (79)
<Median		1885 (77)	1923 (50)	639 (24)		3250 (74)	2665 (47)	659 (21)
Dairy products								
Median (g/day)	196.7				191.1			
≥Median		1684 (69)	1920 (50)	844 (32)		2891 (66)	2712 (48)	971 (32)
<Median		773 (31)	1888 (50)	1786 (68)		1500 (34)	2968 (52)	2106 (68)
Cereals*								
Median (g/day)	177.7				139.7			
≥Median		874 (36)	1914 (50)	1660 (63)		1548 (35)	2992 (53)	2034 (66)
<Median		1583 (64)	1894 (50)	970 (37)		2843 (65)	2688 (47)	1043 (34)
Meat								
Median (g/day)	120.8				89.8			
≥Median		1370 (56)	1980 (52)	1098 (42)		2500 (57)	2855 (50)	1219 (40)
<Median		1087 (44)	1828 (48)	1532 (58)		1891 (43)	2825 (50)	1858 (60)
Fish								
Median (g/day)	23.7				18.8			
≥Median		494 (20)	1906 (50)	2062 (78)		1101 (25)	3000 (53)	2473 (80)
<Median		1963 (80)	1902 (50)	568 (22)		3290 (75)	2680 (47)	604 (20)
Olive oil								
Median (g/day)	45.5				38.7			
≥Median		574 (23)	1841 (48)	2033 (77)		1128 (26)	2963 (52)	2483 (81)
<Median		1883 (77)	1967 (52)	597 (23)		3263 (74)	2717 (48)	594 (19)
Potatoes								
Median (g/day)	88.7				65.8			
≥Median		1022 (42)	1943 (51)	1483 (56)		1870 (43)	2929 (52)	1776 (58)
<Median		1435 (58)	1865 (49)	1147 (44)		2521 (57)	2751 (48)	1301 (42)
Eggs								
Median (g/day)	16.3				14.1			
≥Median		1209 (49)	1911 (50)	1328 (50)		2126 (48)	2888 (51)	1560 (51)
<Median		1248 (51)	1897 (50)	1302 (50)		2265 (52)	2792 (49)	1517 (49)

N Engl J Med 2003;348:2599-608.

N Engl J Med 2003;348:2599-608.

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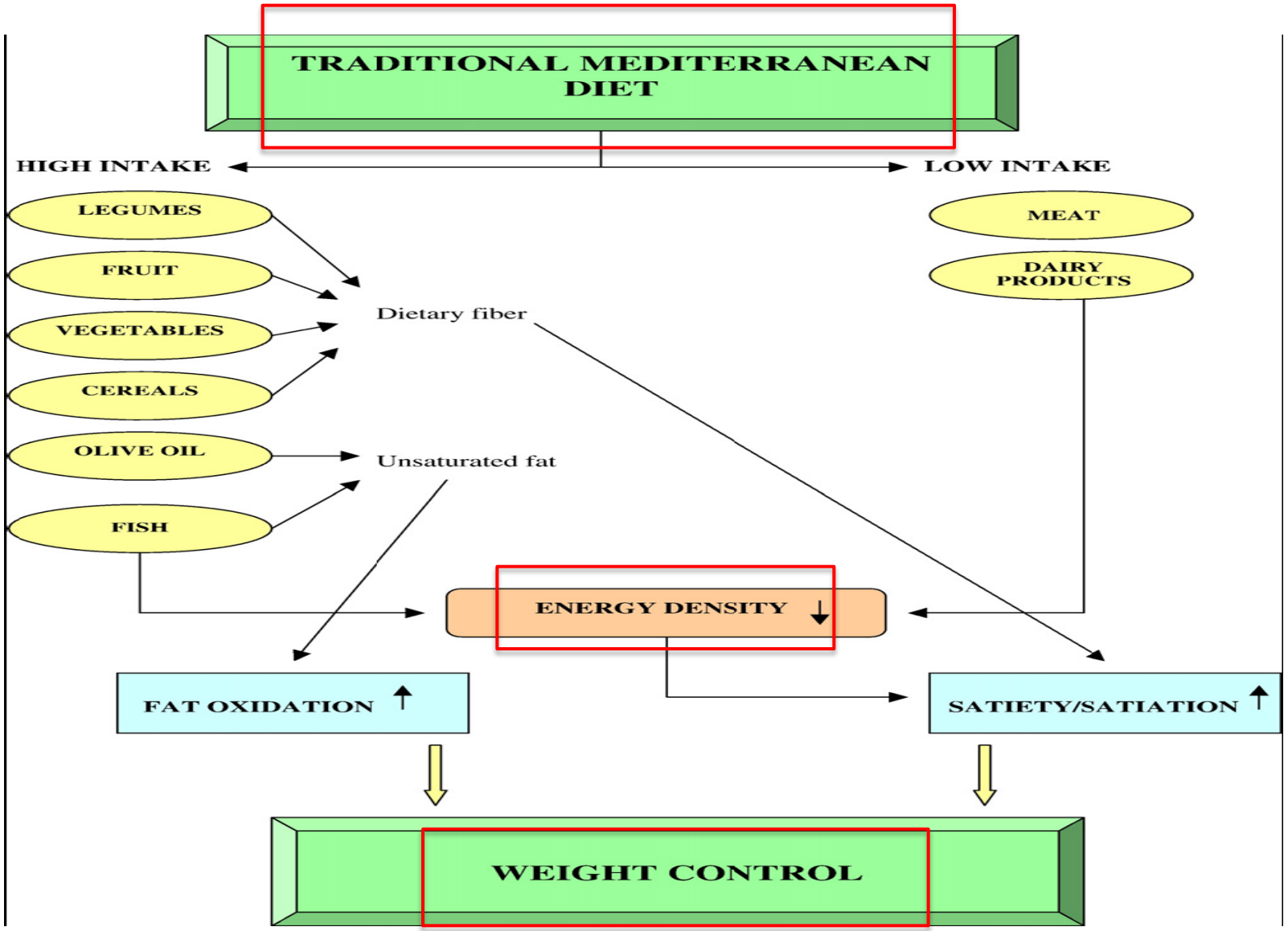
2010 edition

s = Serving

- **Il valore aggiunto del modello mediterraneo**
  - **Tradizione**
  - **Convivialità**

La dieta Mediterranea non è soltanto un elenco di prodotti alimentari… significa anche una maniera di cucinare, di condividere, di definire il paesaggio, di creare cultura, arte, storia, tradizioni ….. una maniera di capire la vita.



Schroder H, Journal of Nutritional Biochemistry 2007; 18: 149–160

- **Il valore aggiunto del modello mediterraneo**
  - **Tradizione**
  - **Convivialità**
  - **Frugalità**

The marketing of ultra-processed products promotes compulsive overeating

Non stop

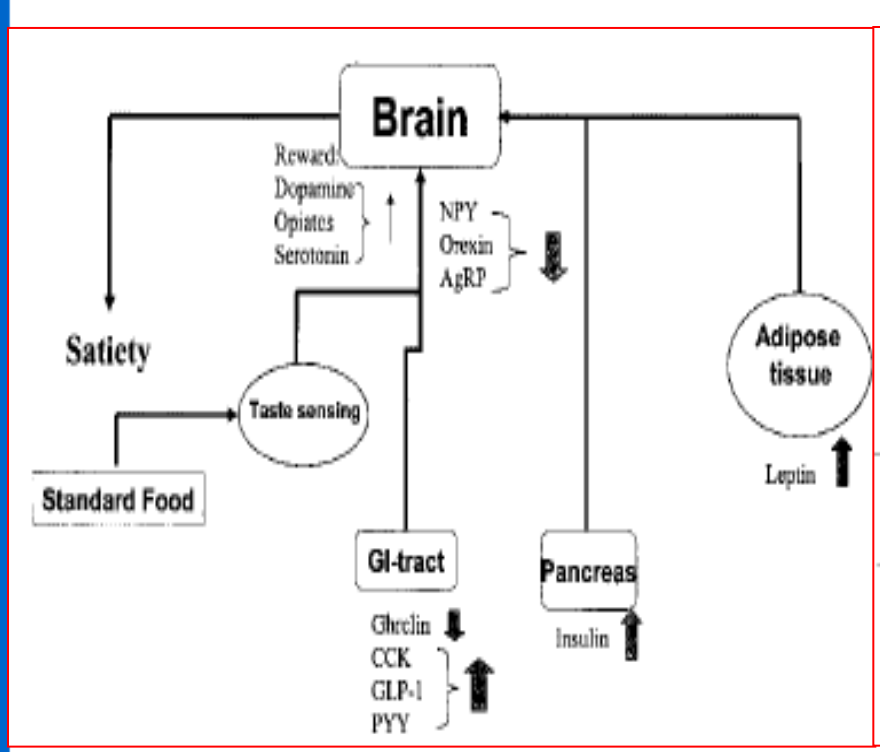
New brand of ultra-processed products in Brazil

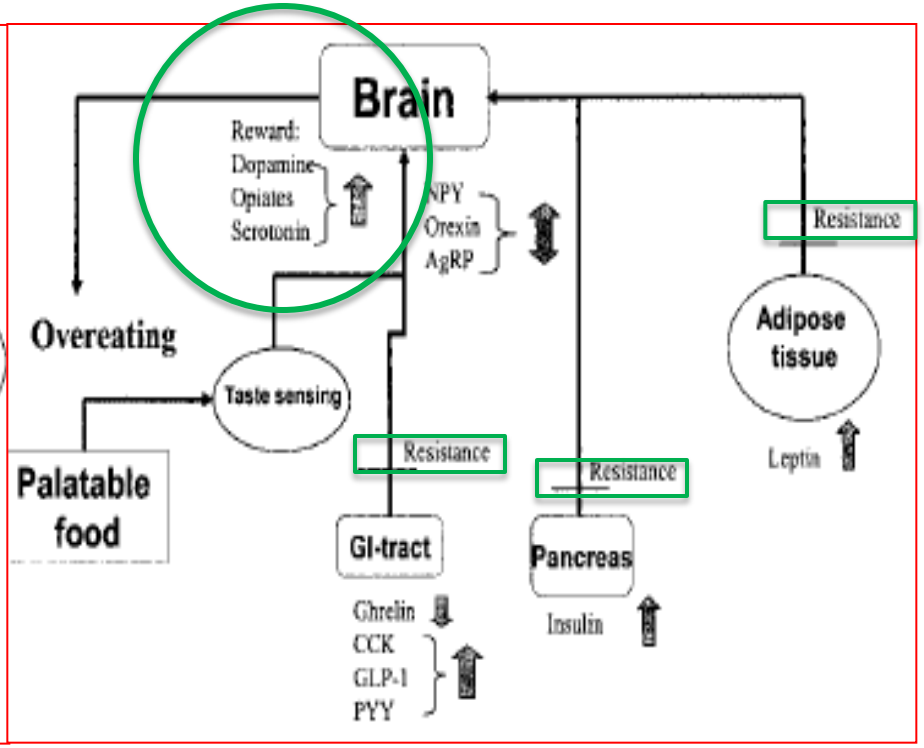
It is one after the other!

The name says it all.
Non-stop is simply irresistible.

How Palatable Food Disrupts Appetite Regulation

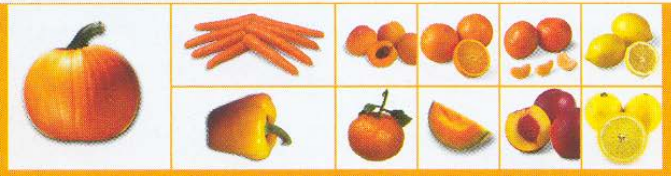
Charlotte Erlanson-Albertsson





Basic & Clinical Pharmacology & Toxicology 2005, **97**, 61–73.

- **Il valore aggiunto del modello mediterraneo**
  - Tradizione
  - Convivialità
  - Frugalità
  - **Prodotti locali**
  - **Stagionalità**

COLORI	ORTAGGI E FRUTTA	EFFETTI SULLA SALUTE	
BLU VIOLA		• Effetti positivi su tratto urinario, invecchiamento e memoria • Riduzione rischio tumori e malattie cardiovascolari	Antocianine, Vit C, Carotenoidi, K, Mg, Fibra
	Melanzane - Radicchio - Frutti di bosco - Uva nera - Prugne - Fichi		
VERDE		• Effetti positivi su occhi, ossa e denti • Riduzione rischio tumori	Clorofilla, Carotenoidi, Mg, Ac. Folico, Vit. C
	Asparagi - Basilico - Broccoli - Cetrioli - Insalata - Prezzemolo - Spinaci - Zucchine - Uva bianca - Kiwi		
BIANCO		• Effetti positivi su livelli di colesterolo • Riduzione rischio tumori e malattie cardiovascolari	Quercetina, Fibra, K, Vit. C, Isotiocianati, Flavonoidi, Allisolfuro, Se
	Aglio - Cavolfiore - Cipolle - Finocchi - Funghi - Mele - Pere		
GIALLO ARANCIO		• Effetti positivi su sistema immunitario, occhi, pelle • Riduzione rischio tumori e malattie cardiovascolari	Beta-carotene, Flavonoidi, Vit. C, Antocianine
	Zucca - Carote - Peperoni - Albicocche - Arance - Clementine - Limoni - Mandarini - Melone - Pesche - Pompelmi		
ROSSO		• Effetti positivi su tratto urinario e memoria • Riduzione rischio tumori e malattie cardiovascolari	Licopene, Antocianine, Vit. C
	Barbabietola rossa - Pomodori - Ravanelli - Anguria - Ciliegie - Fragole - Arance rosse		

The Nutrition Benefits of Eating Locally

Corilee Watters

In recent years, the idea of eating food grown and produced in close proximity to your home has gained a lot of attention and inspired many people to dramatically change the way they choose their meals and obtain their ingredients. In Hawaii this is especially important since imported food travels a minimum of 2,500 miles and transportation costs increase the price of fresh fruits and vegetables.

Nutrition

Evidence shows that locally grown produce can have a higher nutritional value than produce transported long distances. Dr. Adrian Franke at the Cancer Researcher Center of Hawaii studying the vitamin C and flavonoid levels of fruits and vegetables found local common mangos contained 117% more vitamin C than imported mangos and the flavonoid levels in local Ka'u oranges are 150% higher than out-of-state Navel oranges. This can be the result of several factors, including plant variety, growing methods, ripeness when harvested, and handling, storage and transportation post-harvest.

- **Il valore aggiunto del modello mediterraneo**
  - Tradizione
  - Convivialità
  - Frugalità
  - Prodotti locali
  - Stagionalità
  - **Attività fisica**

Stile di vita Mediterraneo

Accanto ad un'alimentazione di tipo Mediterraneo, con un elevato consumo di vegetali, frutta, legumi, noci, pesce, cereali e olio d'oliva, insieme ad un moderato consumo di alcol (vino in maniera predominante), risulta fondamentale l'assunzione di uno stile di vita improntato ad una minore sedentarietà e una maggiore attività fisica.

"una attività fisica regolare è una caratteristica della forma di vita mediterranea e un complemento importante della salutare dieta mediterranea tradizionale"

(Dichiarazione internazionale sulla Dieta Mediterranea, FAO)

AZIONE SINERGICA DI TUTTI I COMPONENTI DELLA DIETA

SIMPeSV Società Italiana di Medicina di Prevenzione e degli Stili di Vita

FIMMG

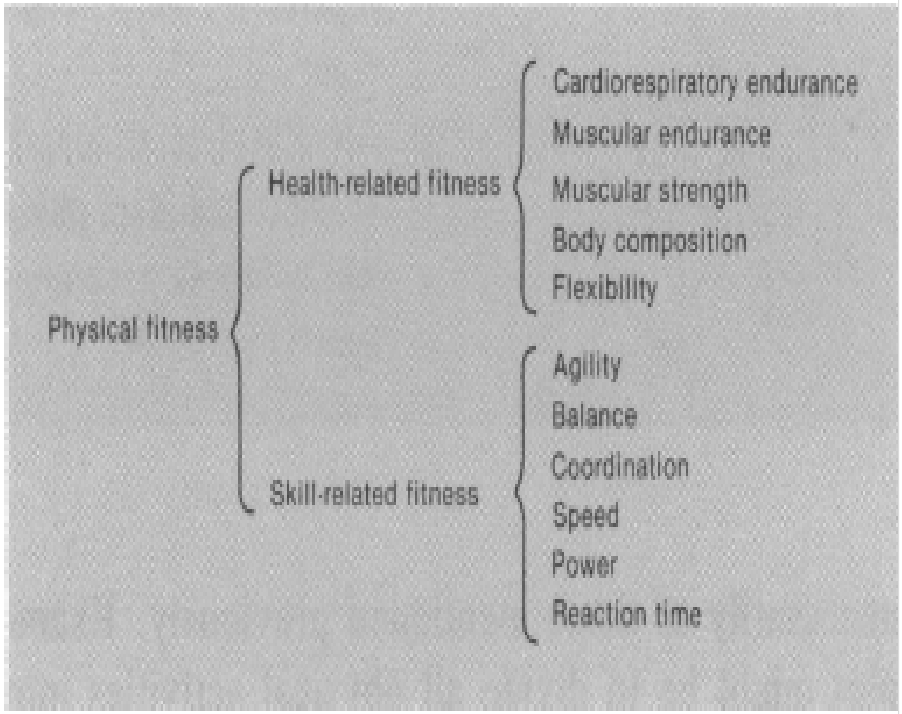
Physical Activity, Exercise, and Physical Fitness: Definitions and Distinctions for Health-Related Research

CARL J. CASPERSEN, PhD, MPH
KENNETH E. POWELL, MD, MPH
GREGORY M. CHRISTENSON, PhD

Elements of physical activity and exercise

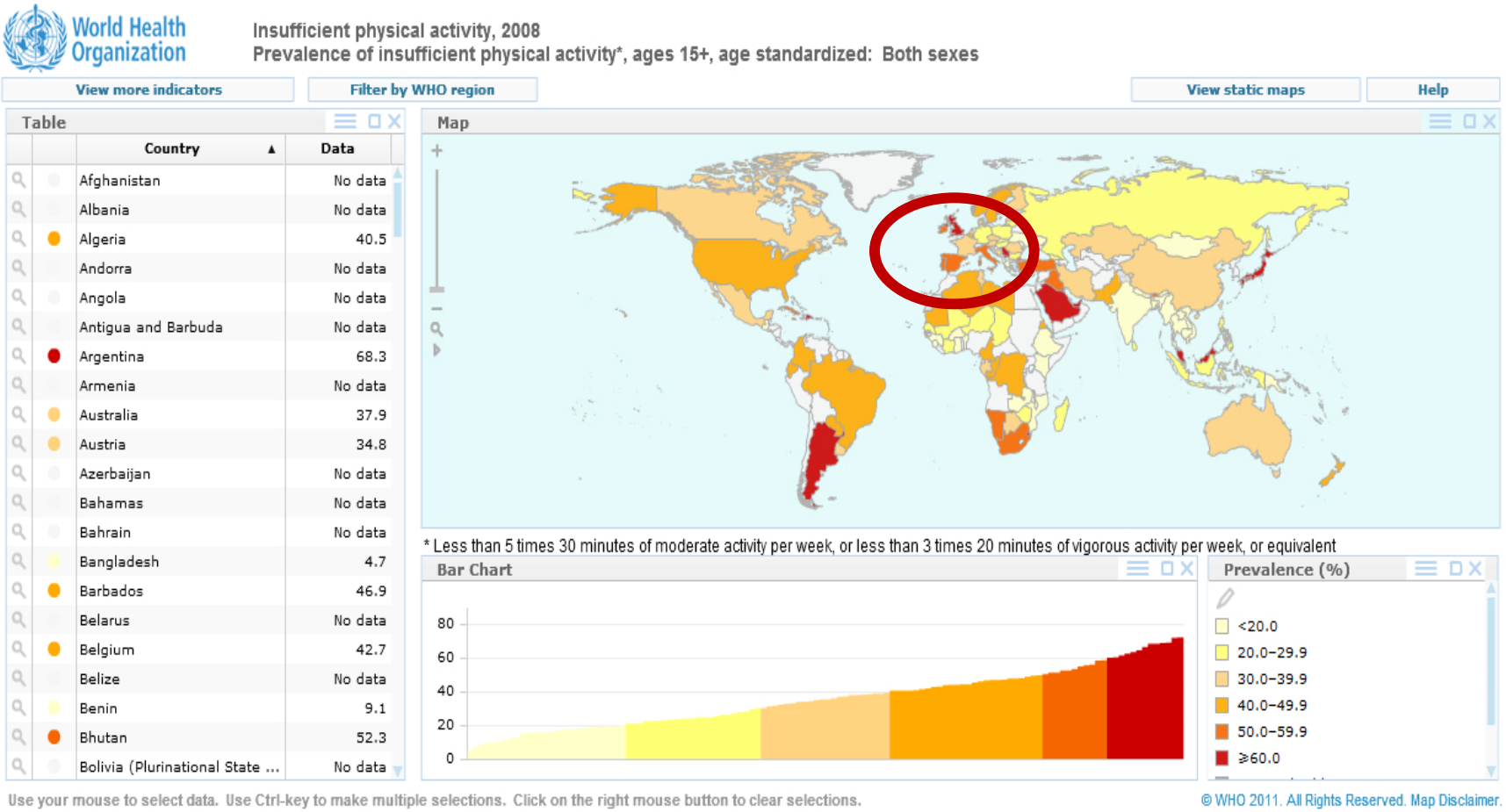
PHYSICAL ACTIVITY	EXERCISE
1. Bodily movement via skeletal muscles	1. Bodily movement via skeletal muscles
2. Results in energy expenditure	2. Results in energy expenditure
3. Energy expenditure (kilocalories) varies continuously from low to high	3. Energy expenditure (kilocalories) varies continuously from low to high
4. Positively correlated with physical fitness	4. Very positively correlated with physical fitness
	5. Planned, structured, and repetitive bodily movement
	6. An objective is to improve or maintain physical fitness component(s)

Figure 2. Components of physical fitness



Public Health Reports 1985; 100; 126-131

Prevalence of insufficient Physical activity



Globally, around 31% of adults aged 15 and over were insufficiently physically active in 2008.

Piramide settimanale dello Stile di Vita

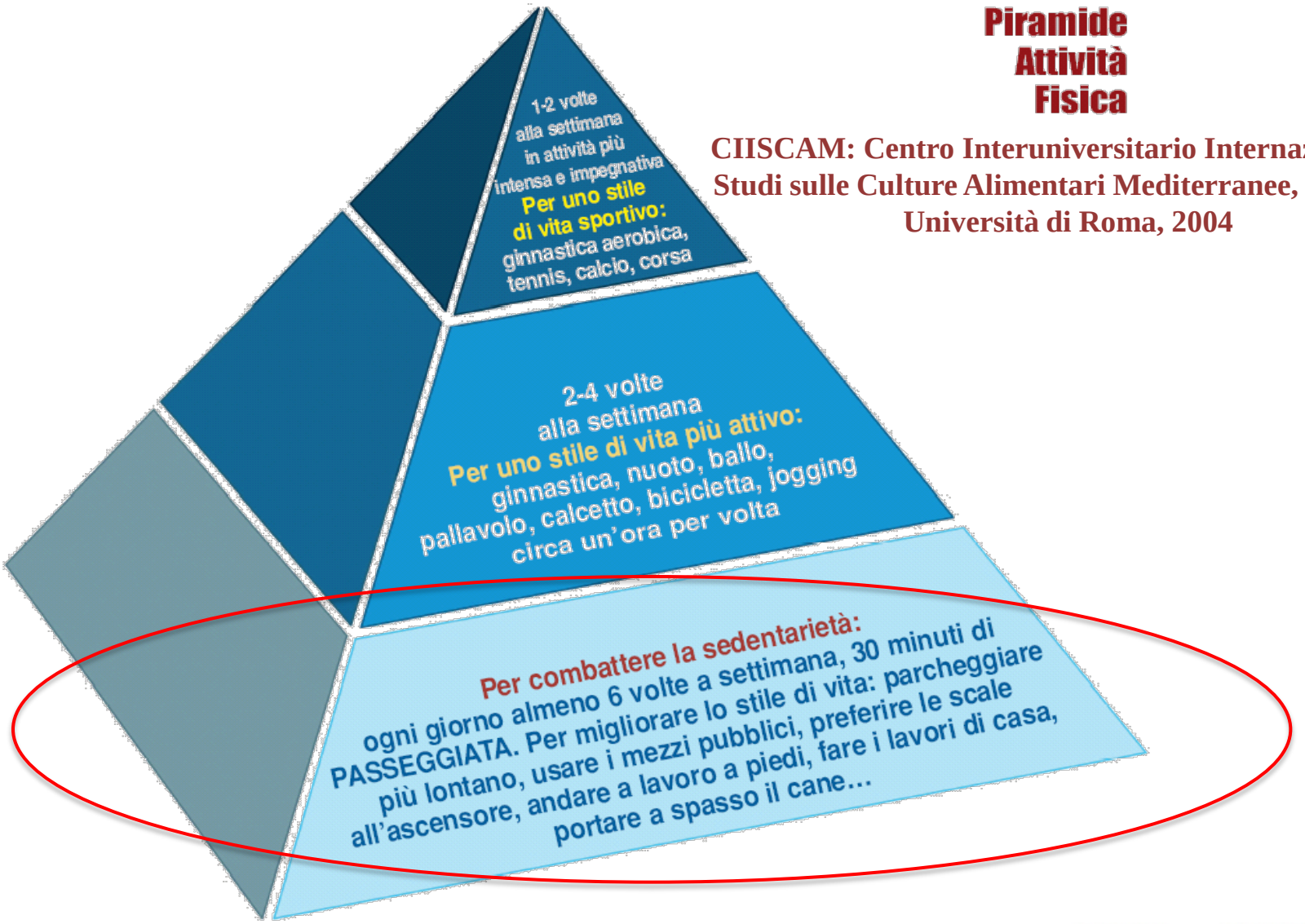
Ciiscam
International inter-university center for mediterranean food culture studies

SIMPeSV Società Italiana di Medicina di Prevenzione e degli Stili di Vita

FIMMG

Piramide Attività Fisica

CIISCAM: Centro Interuniversitario Internazionale di Studi sulle Culture Alimentari Mediterranee, Sapienza Università di Roma, 2004



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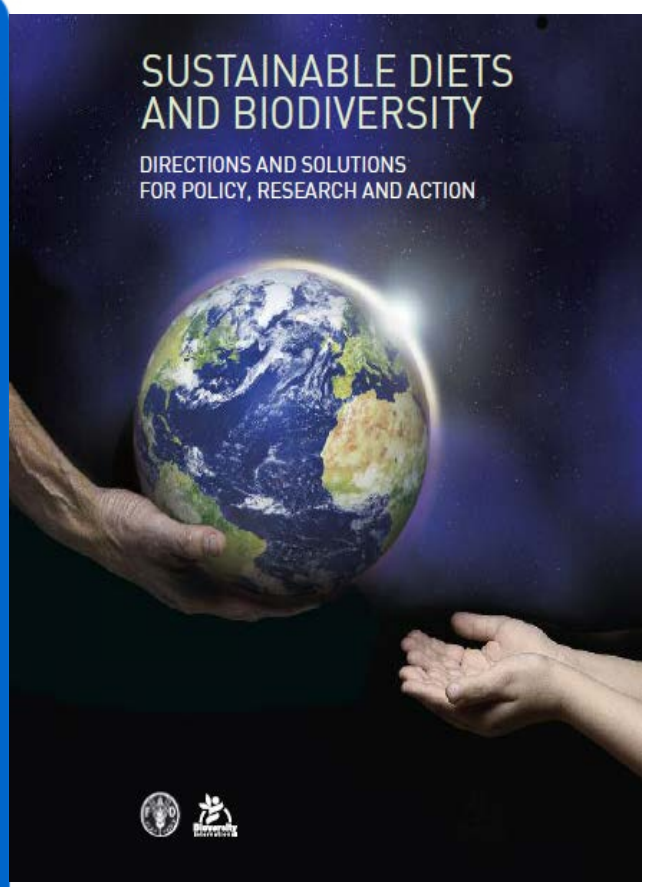
FIMMG

- **Il valore aggiunto del modello mediterraneo**
  - Tradizione
  - Convivialità
  - Frugalità
  - Prodotti locali
  - Stagionalità
  - Attività fisica
  - **Sostenibilità**



"...Sustainable diets are those diets with ***low environmental impacts*** *which contribute to* ***food and nutrition security*** *and to* ***healthy life*** *for present and future generations. Sustainable diets are protective and respectful of* ***biodiversity*** *and* ***ecosystems****,* ***culturally acceptable****,* ***accessible****,* ***economically fair and affordable****;* ***nutritionally adequate****,* ***safe and healthy****; while optimizing natural and* ***human resources****."*

Annex I

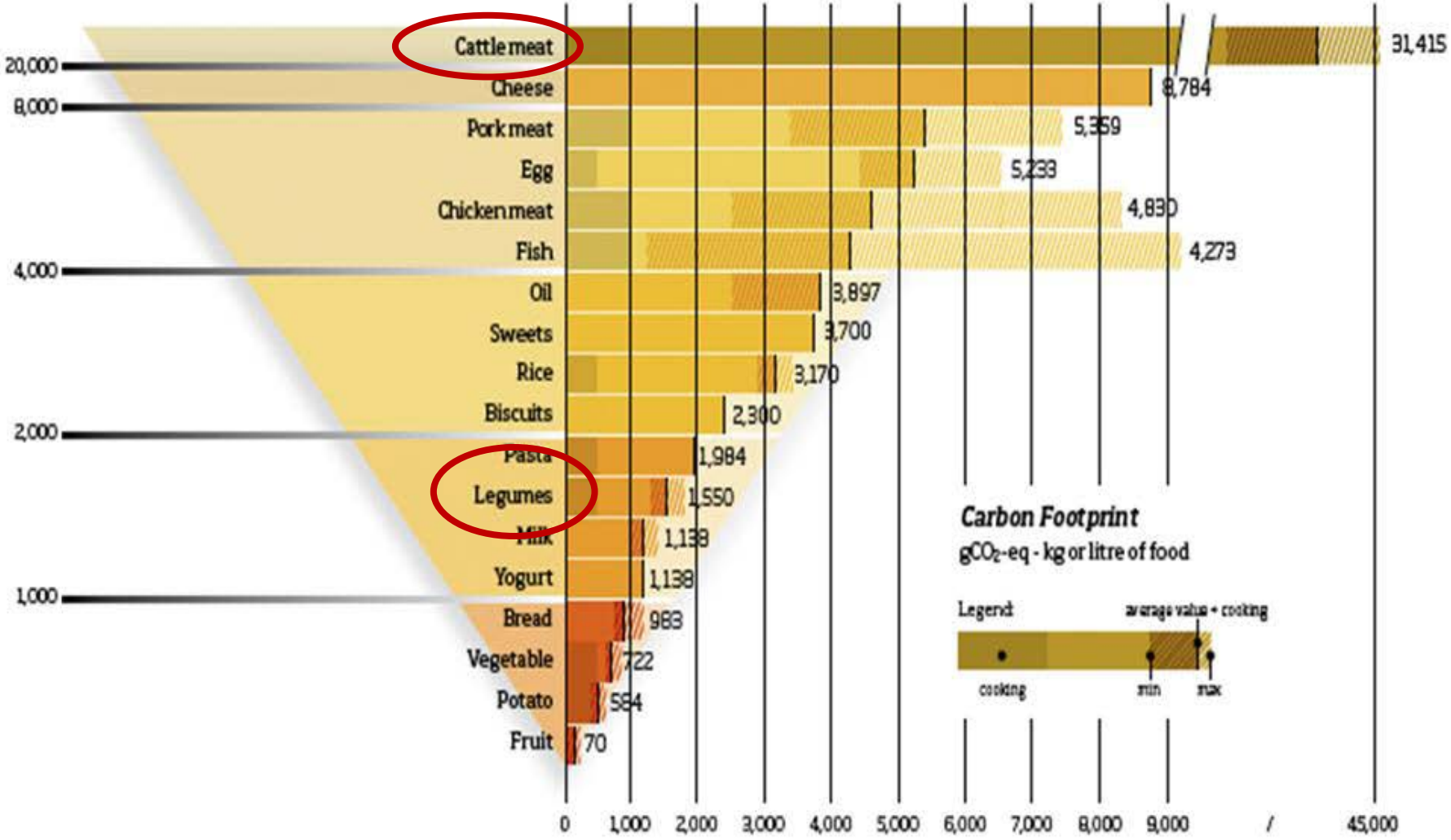
INTERNATIONAL SCIENTIFIC SYMPOSIUM
BIODIVERSITY AND SUSTAINABLE DIETS UNITED AGAINST HUNGER

FINAL DOCUMENT

3–5 NOVEMBER 2010
FAO HEADQUARTERS, ROME

Carbon footprint

Red meat is the highest, around 30 times than legumes



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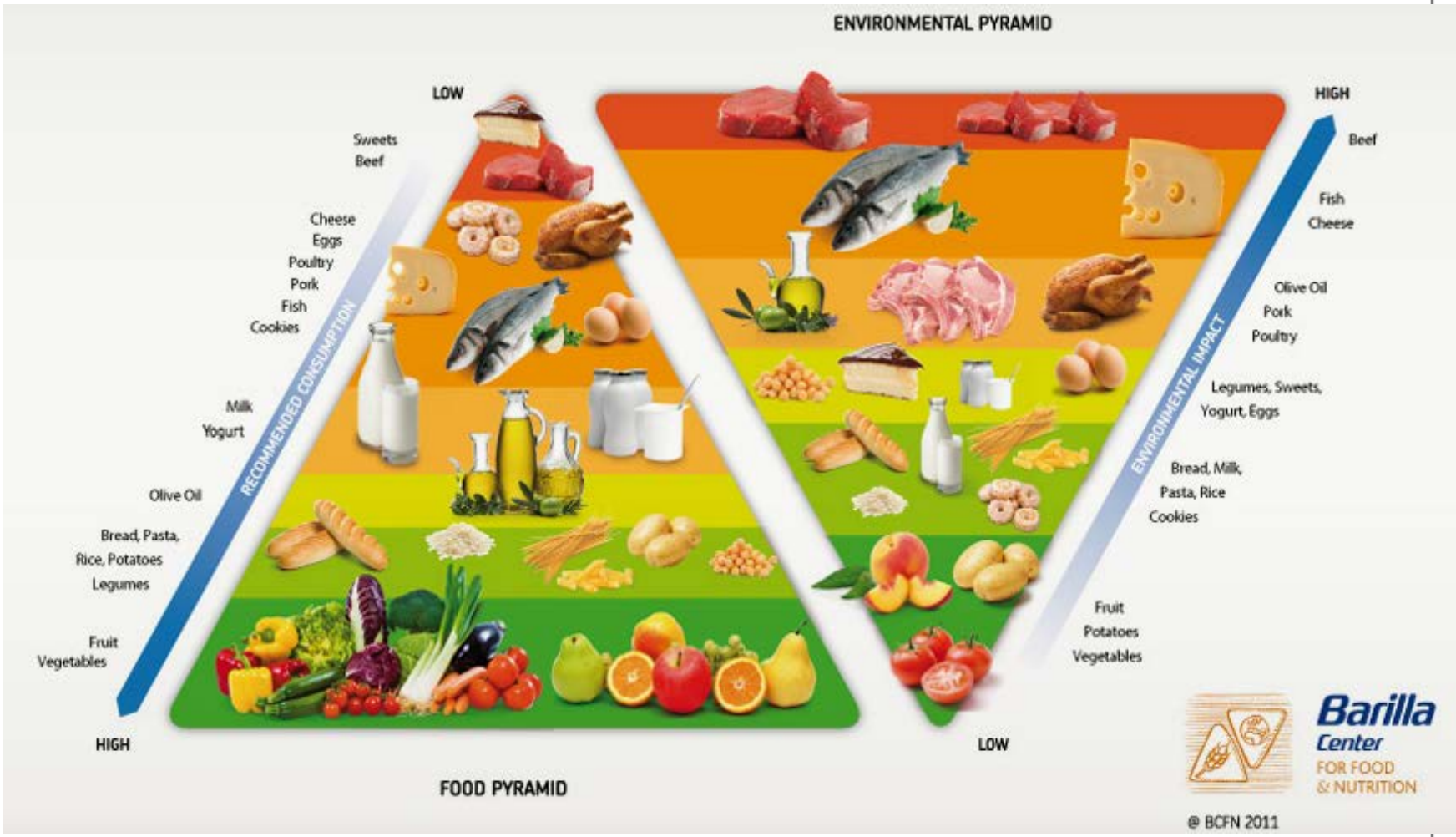

Piramide alimentare – impatto ambientale Barilla

http://www.barillagroup.com/corporate/it/home/cosafacciamo/nutrizione-e-salute/doppia-piramide.html