CORSO DI 2° LIVELLO

PER L'ORGANIZZAZIONE E LA GESTIONE DI UN AMBULATORIO DEGLI STILI DI VITA

7^ EDIZIONE

03_04 Marzo 2018
Frascati - Roma

Modelli alimentari

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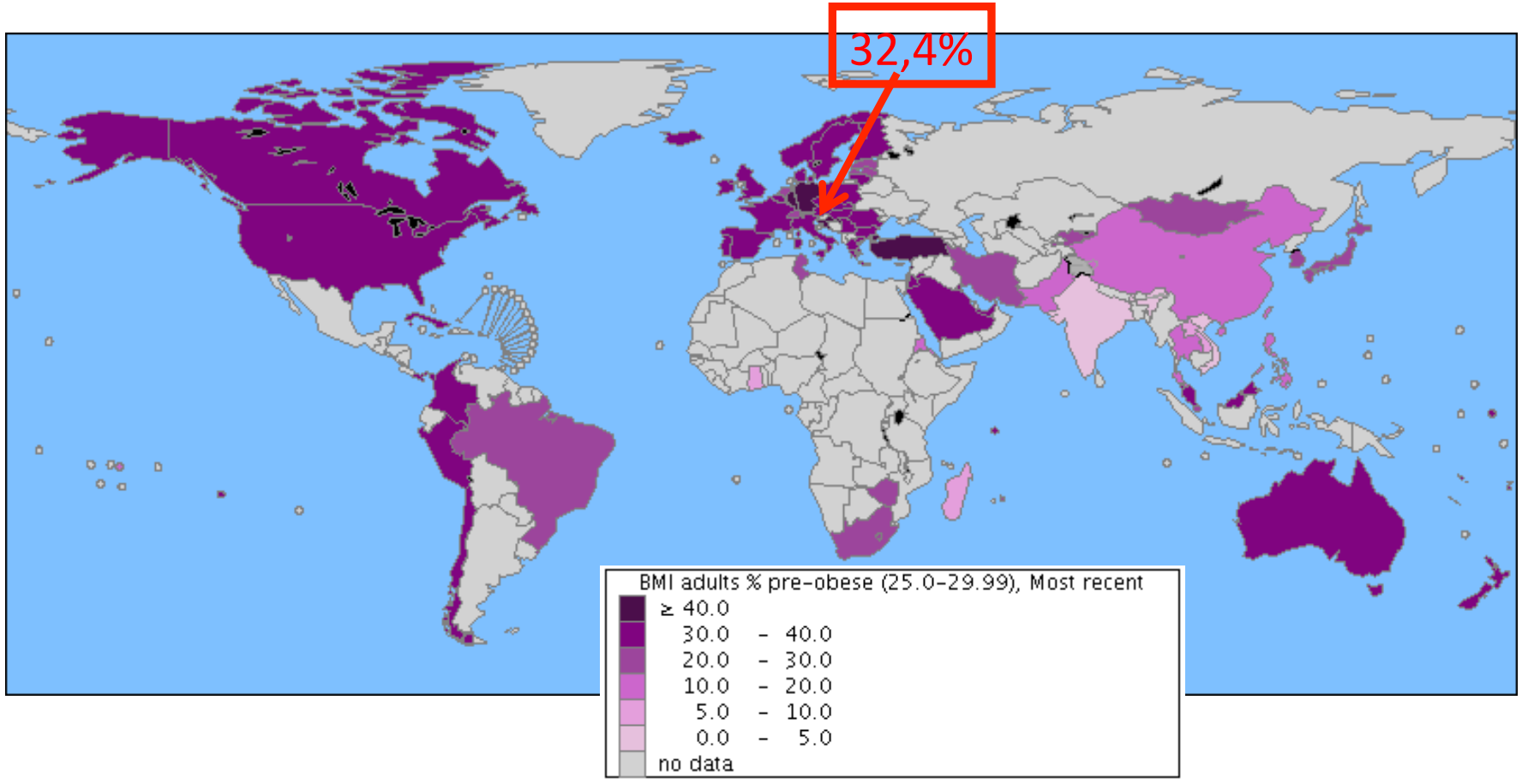
SIMPeSV
Società Italiana di Medicina di Prevenzione e degli Stili di Vita

BMI adults % pre-obese (25.0-29.99)



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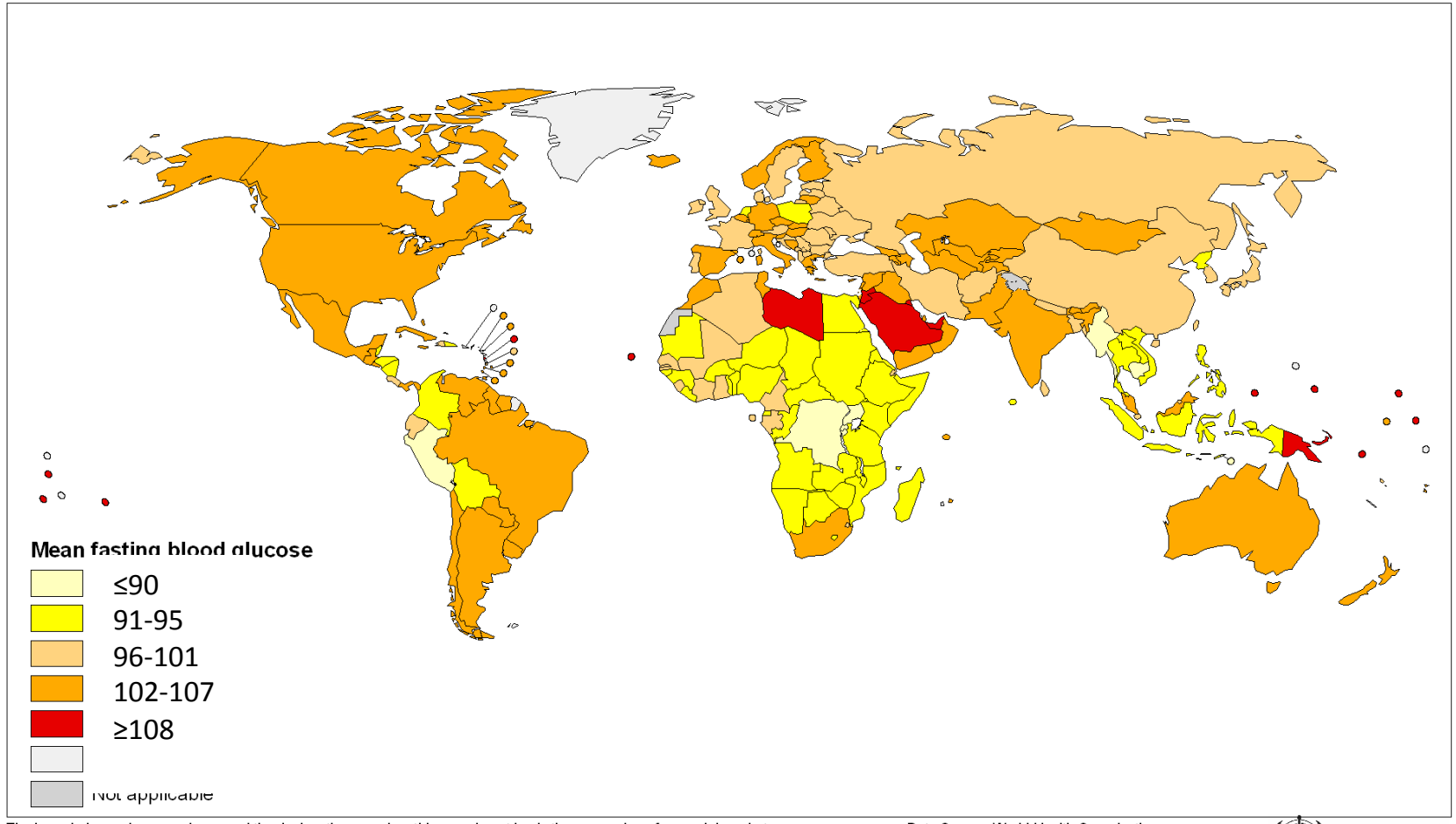
Mean fasting blood glucose (mg/dL), ages 25+, age standardized
Males, 2008



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Data Source: World Health Organization
Map Production: Public Health Information and Geographic Information Systems (GIS)
World Health Organization

World Health Organization

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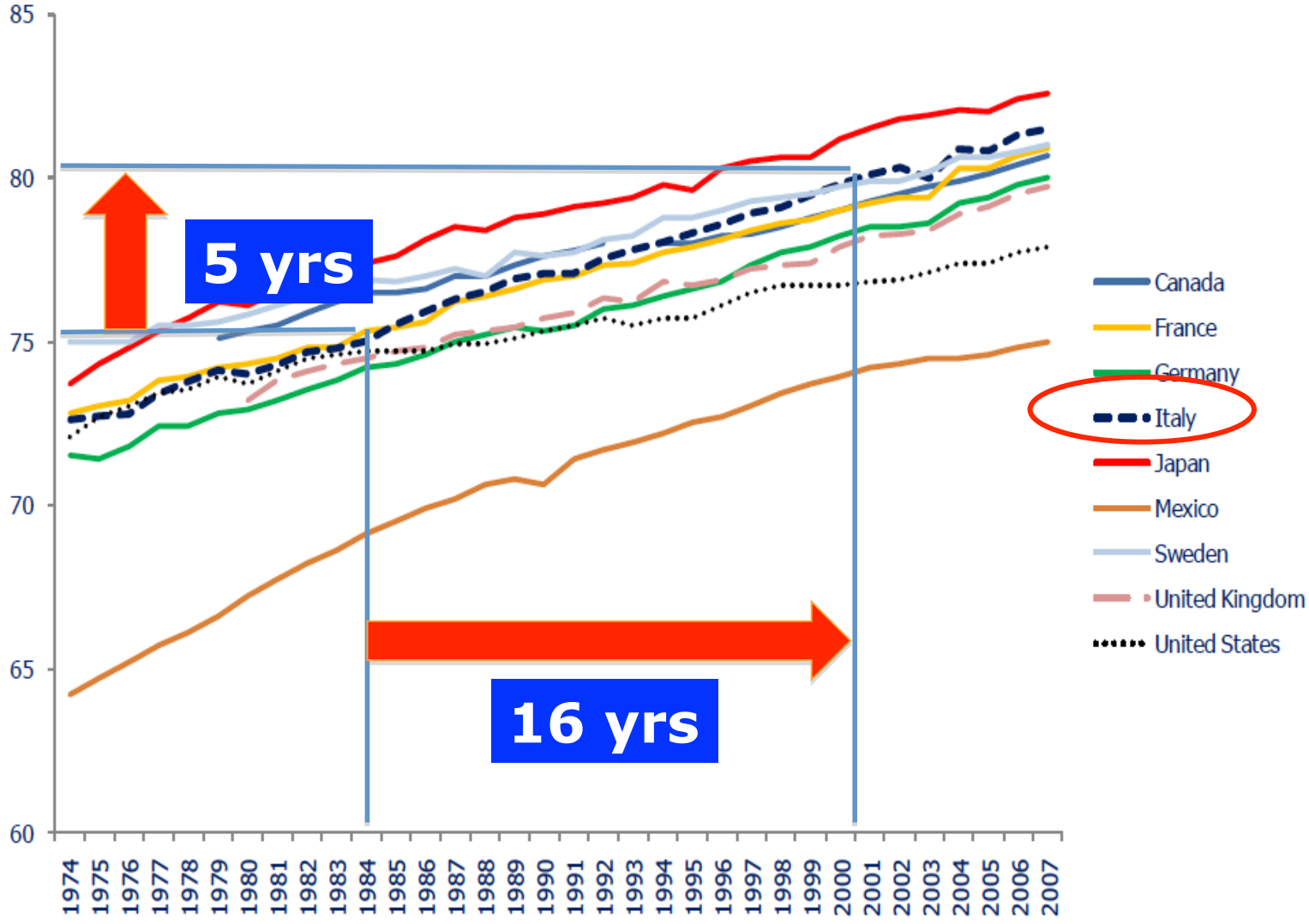
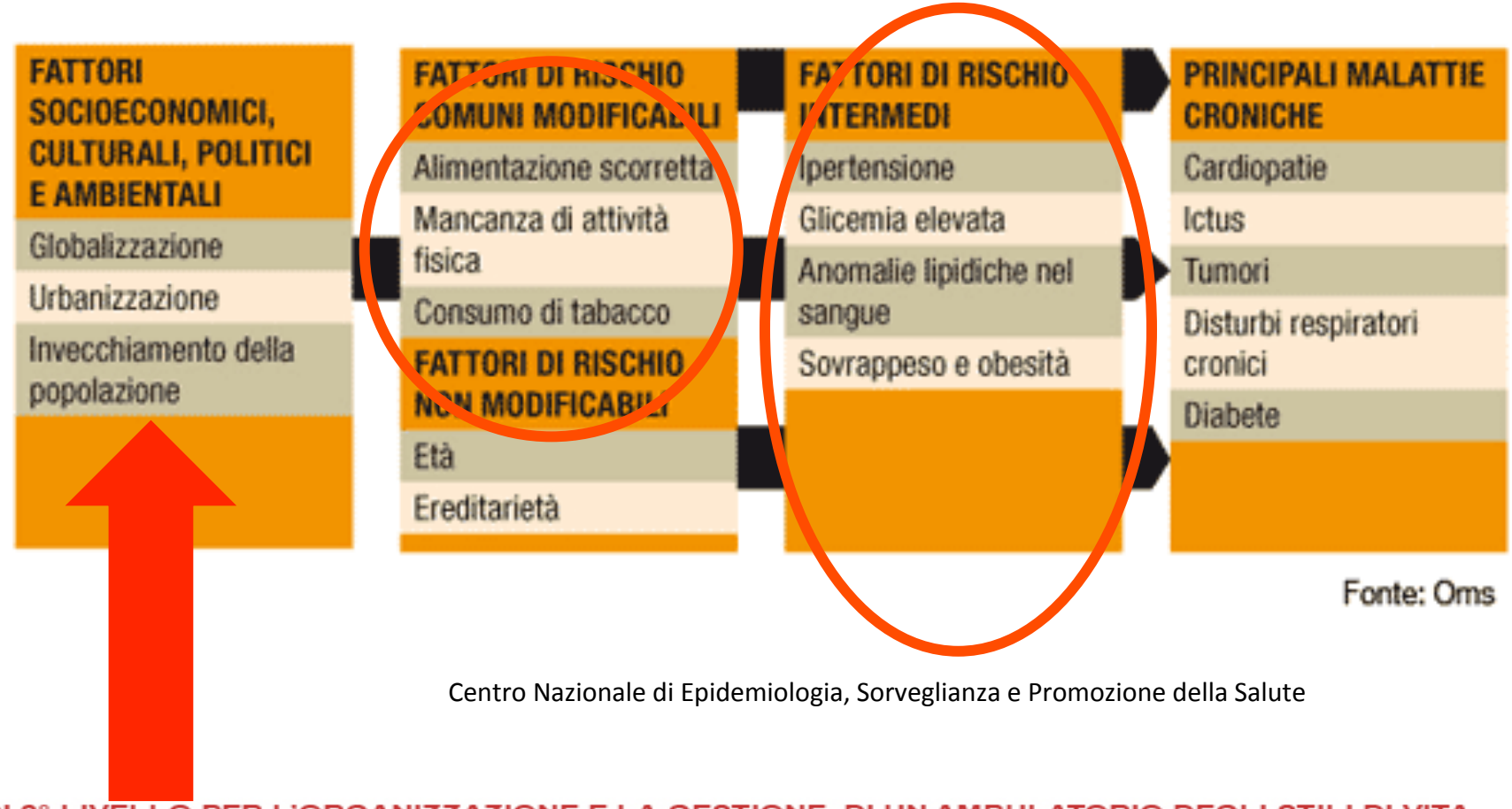
An ongoing process...



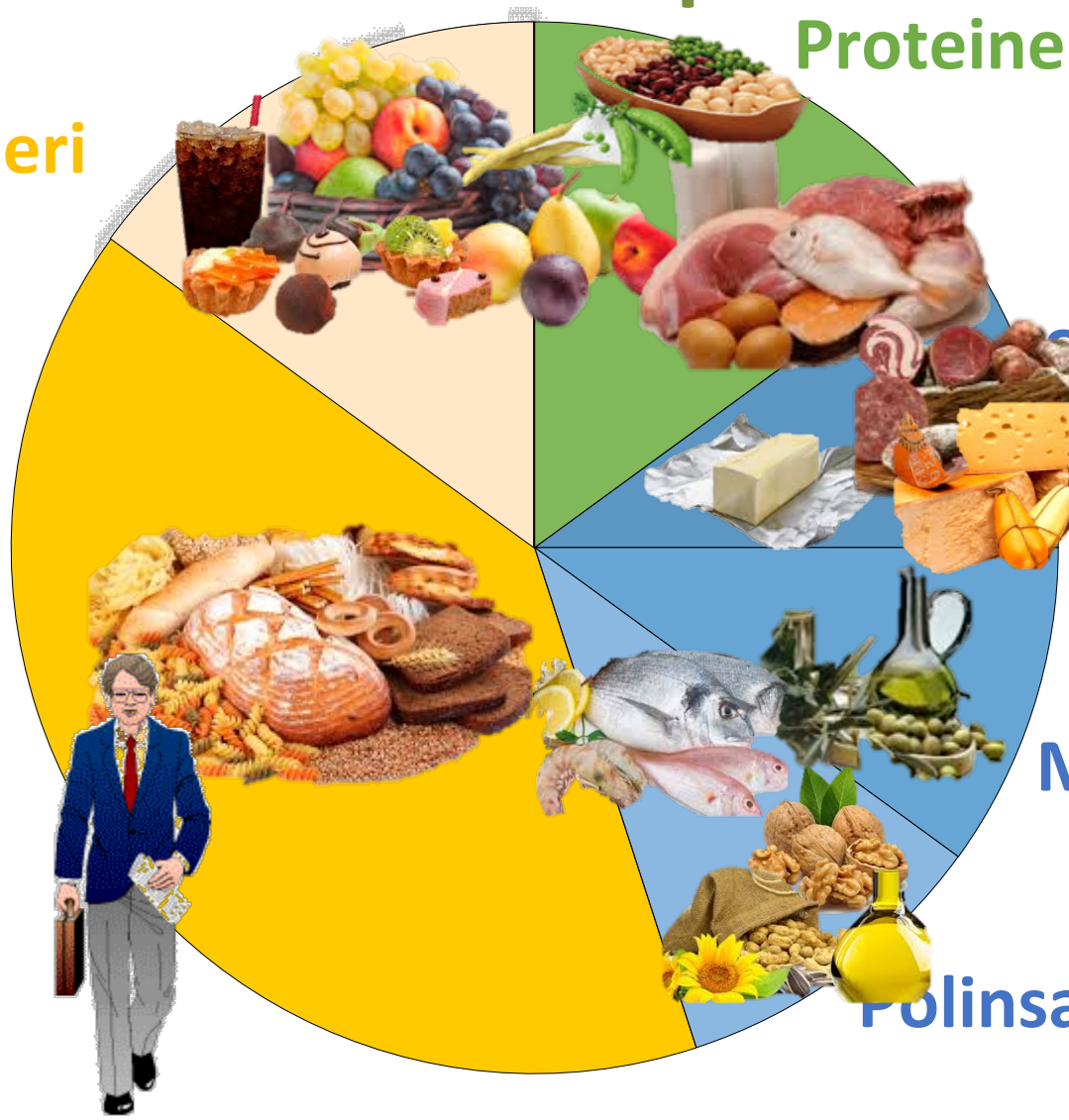
OECD Life expectancy at birth

Cause delle malattie croniche

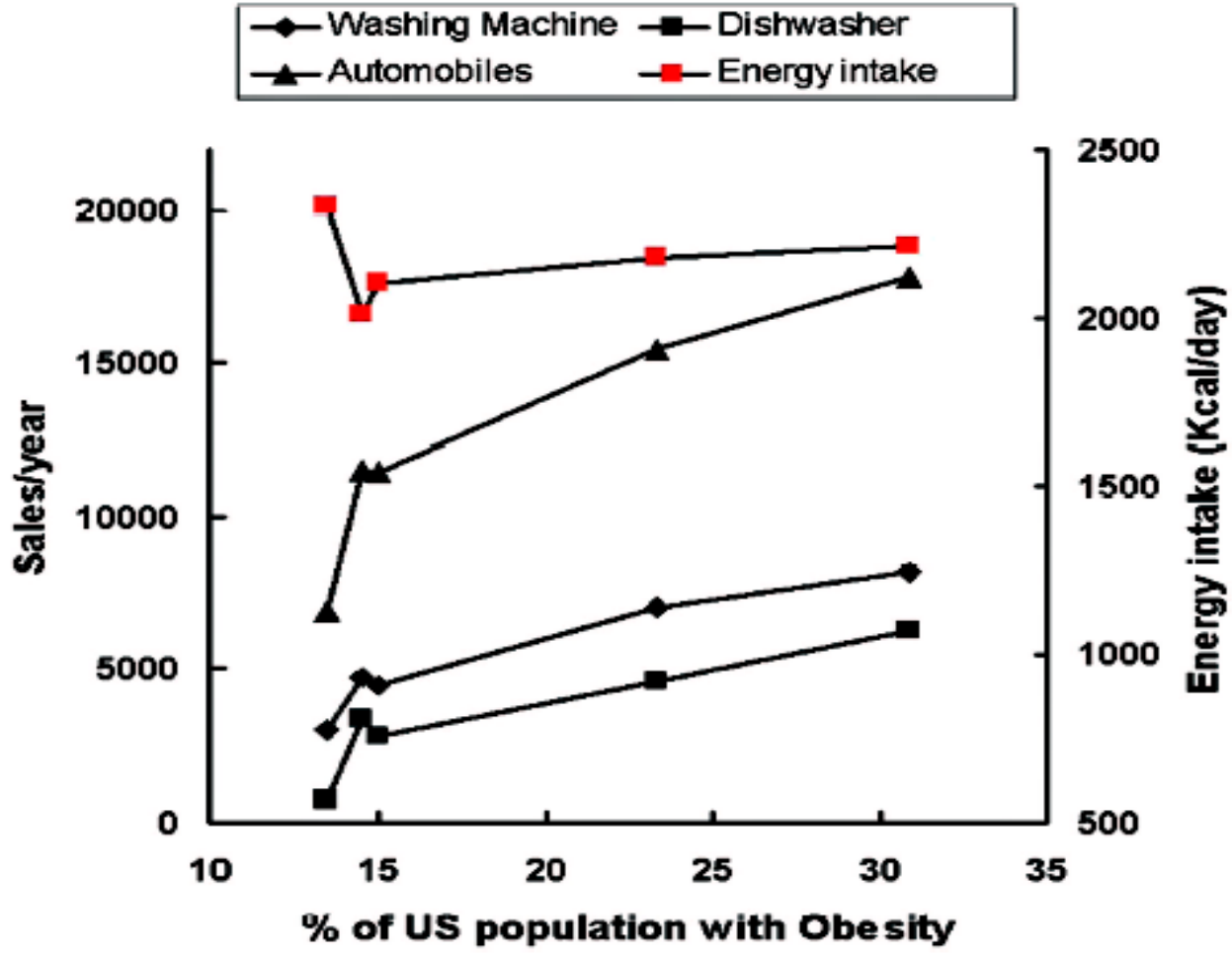


Centro Nazionale di Epidemiologia, Sorveglianza e Promozione della Salute

Sana alimentazione: composizione della dieta



Energy intake from the NHANES data and sales of domestic machines versus obesity rates in the US.



Levine JA et al, ATVB 2006

Sana alimentazione: le nuove linee guida

Bilancia i nutrienti e mantieni il peso

1. Controlla il peso e mantieniti sempre attivo
2. Consigli speciali per persone speciali

Più è meglio

1. Frutta e verdura
2. Cereali integrali e legumi
3. Acqua

Meno è meglio

1. Grassi
2. Zuccheri
3. Sale
4. Alcol

Scegli la sicurezza e la sostenibilità

1. Varia spesso le tue scelte a tavola
2. Fai attenzione alle diete e agli integratori
3. La sicurezza dei tuoi cibi dipende anche da te
4. Scegli gli alimenti sostenibili (dal punto di vista ambientale, economico, sociale, …)

Modificato da: CREA – Le nuove linee guida

Overview of the average daily composition and intakes of protein, fat, carbohydrates and alcohol as a percentage of total energy intake (E%) for the New Nordic Diet (NND), the recommended intake according to the Nordic Nutrition Recommendations (NNR) and the average composition of the diet in the Danish population

	Average composition of the NND	Recommended intake from NNR	Average composition of the diet in the Danish population
Protein (E%)	17	15	14
Fat (E%)	32	30	33
SFA (E%)	10	≤10	14
MUFA (E%)	13	10–15	12
PUFA (E%)	8	5–10	5
Carbohydrates (E%)	51	55	48
Dietary fibre (g)	41	25–35	23
Refined sugars (E%)	4	≤10	11
Alcohol (E%)	1	≤5	6

All figures are for groups of individuals 10–75 years of age, with a heterogeneous age and sex distribution (for alcohol, 18–75 years of age).

C Mithril et al. Public Health Nutrition 2013; 16(5): 777–785

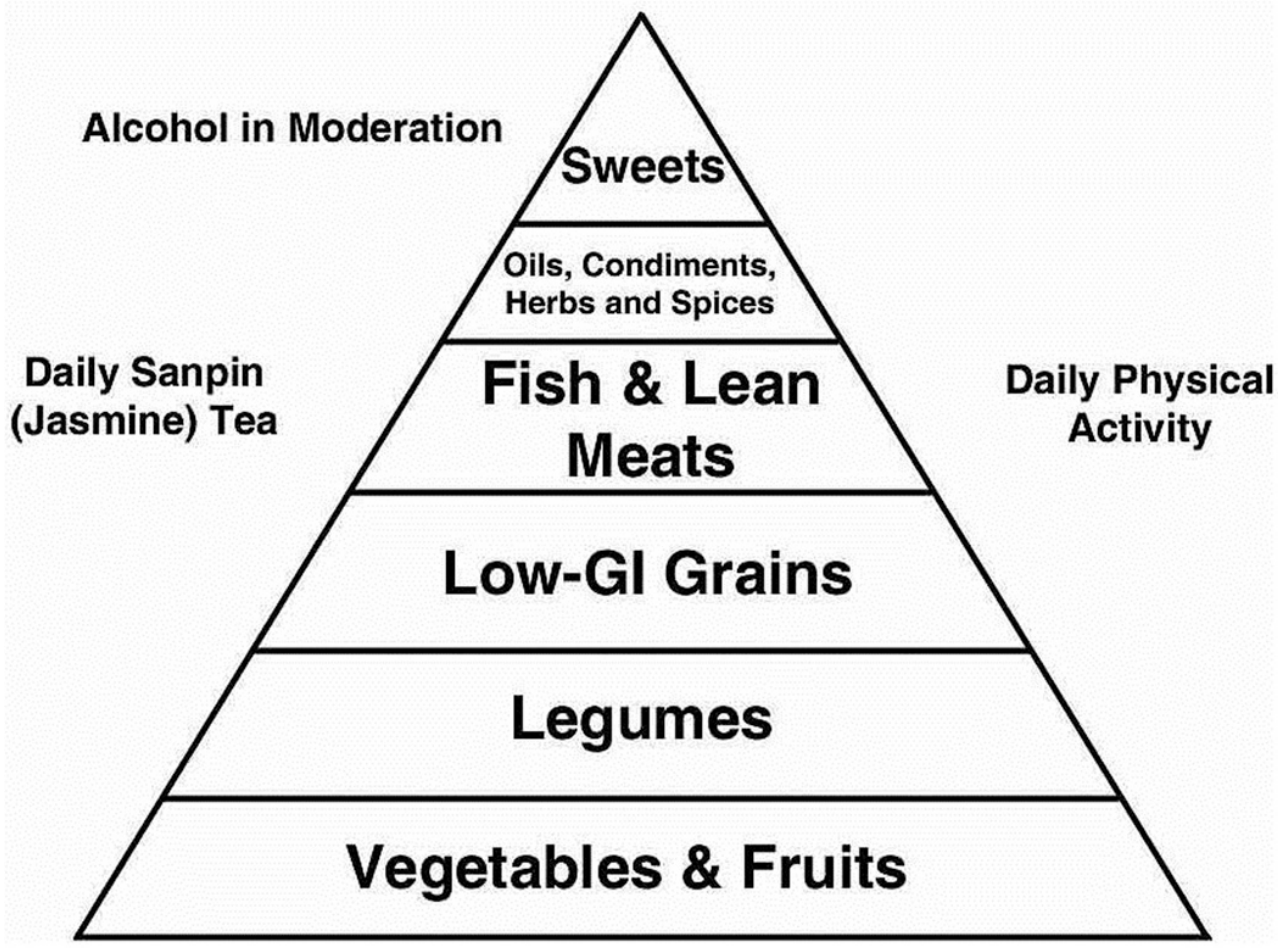
Overview of the average daily content of the dietary components in the New Nordic Diet (NND) in relation to the Danish Foodbased Dietary Guidelines (DFDG) and the average daily content in the Danish population

Dietary component	Average content in the NND (g/d)	Recommended intake in the DFDG (g/d)	Average content in the Danish population (g/d)
Fruit and vegetables	Fruit: >300 Vegetables: >400	Fruit: 300 Vegetables: 300	Fruit: 240 Vegetables: 181
Including			
Berries	50–100	–	5
Cabbages	>29	–	9
Root vegetables	>150	–	38
Legumes	>30	–	7
Fresh herbs	As much as possible	–	<1
Potatoes	>140	>140	106
Plants and mushrooms from the wild countryside	5	–	<1
Whole grains	>75	75	36
Nuts	>30	30	1
Fish and shellfish	>43	29–43	22
Seaweed	5	–	<1
Free-range livestock (including pigs and poultry)	85–100	100	143
Including			
Game	>4	–	<1

All figures are based on the energy-adjusted intake (per 10 MJ) of all persons aged 4–75 years.

C Mithril et al. Public Health Nutrition 2013; 16(5): 777–785

Traditional Okinawan diet food pyramid



DG Willcox et al. Mech Ageing Dev. 2014; 136-137: 148–162

Dietary Patterns of Japanese Diets

Major Nutrient	Traditional Okinawa	Okinawan Elder's Diet	Modern Okinawa
Carbohydrate (% kcal)	85%	58%	58%
Protein (% kcal)*	9%	16%	15%
Fat (% kcal)*	6%	26%	28%
Sat. Fat (% kcal)	2%	7%	7%
Cholesterol (mg/1000 kcal)	--	156 mg	164 mg
Sodium (mg/d)	1113 mg	3100 mg	3256 mg
Potassium (mg/d)	5199 mg	1999 mg	1901 mg

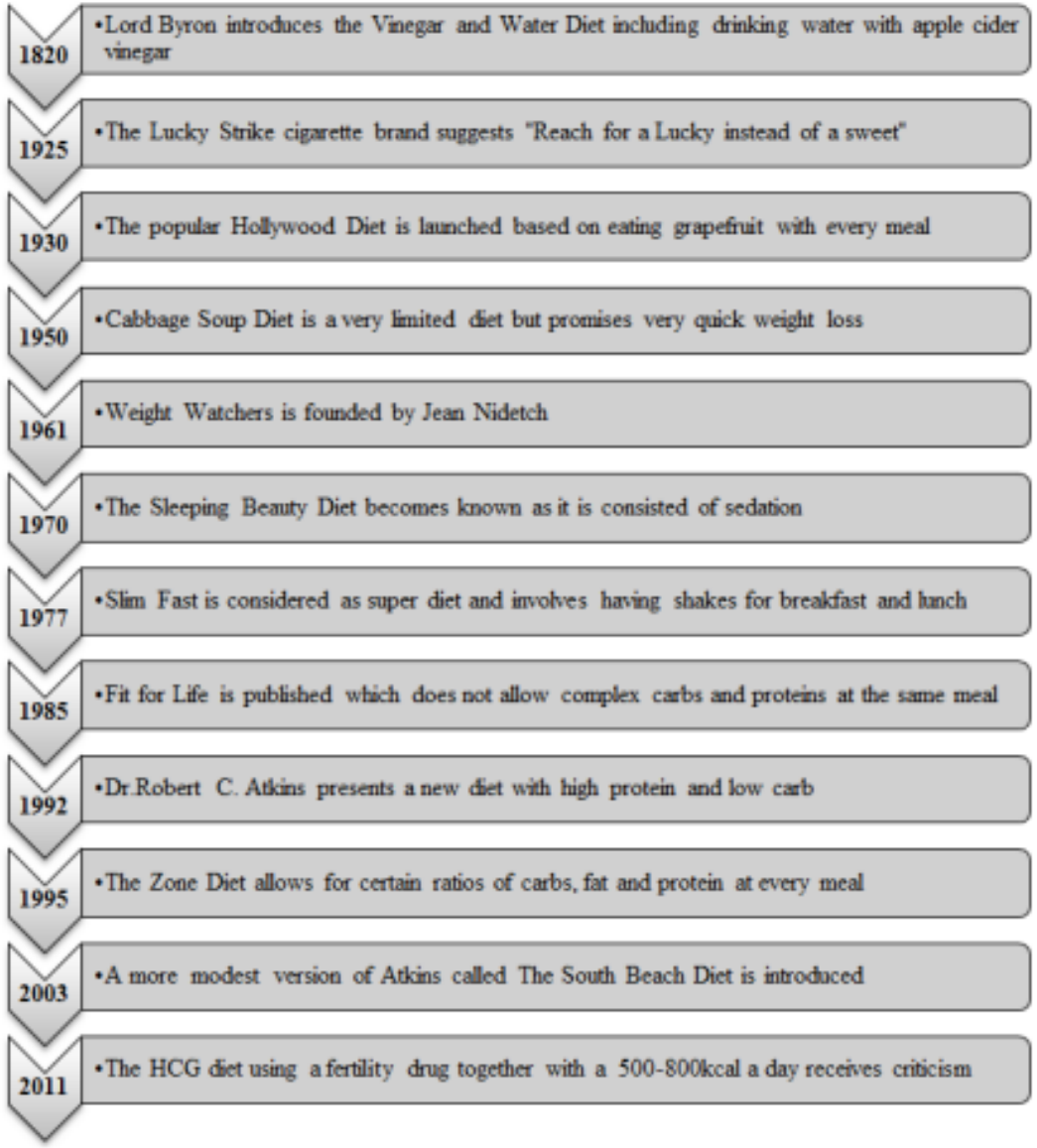
DG Willcox et al. Mech Ageing Dev. 2014; 136-137: 148–162

Food Group Intake in Traditional Diets of Okinawans and Other Japanese

	Okinawa, 1949	Japan, 1950
Food Group	Weight in grams (% total calories)	
Grains	192 (33)	481 (75)
Nuts, Seeds	<1 (<1)	<1 (<1)
Sugars	3 (<1)	8 (1)
Oils	3 (2)	3 (1)
Legumes (e.g., soy and other beans)	71 (5)	55 (4)
Fish	15 (1)	62 (5)
Meat (incl. poultry)	3 (<1)	11 (<1)
Eggs	1 (<1)	7 (<1)
Dairy	<1 (<1)	8 (<1)
Vegetables	965 (58)	301 (8)
Fruit	<1 (<1)	44 (1)
Pickled Vegetables	0 (0)	35 (1)

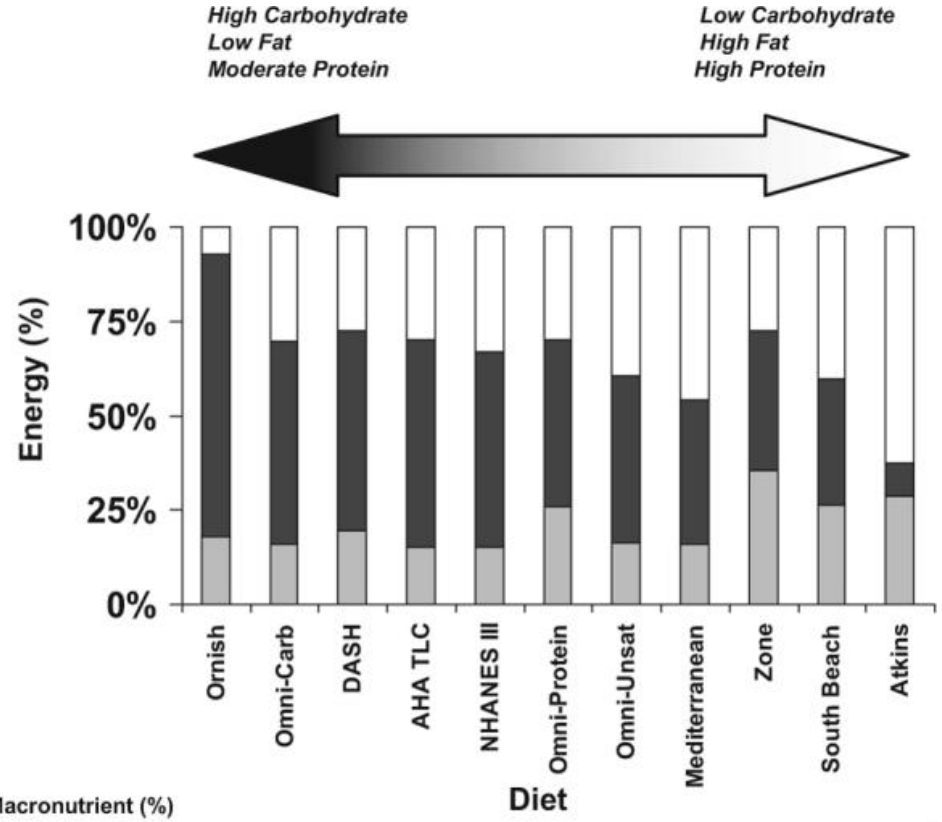
DG Willcox et al. Mech Ageing Dev. 2014; 136-137: 148–162

History of dieting over time including the most popular fad diets



Alternatives for macronutrient intake and chronic disease: a comparison of the OmniHeart diets with popular diets and with dietary recommendations[1–3]

Macronutrient profiles of popular diets, the OmniHeart and Dietary Approaches to Stop Hypertension (DASH) study diets, the American Heart Association Therapeutic Lifestyle (AHA TLC) guidelines, and typical US macronutrient intakes as reported in the third Health and Nutrition Examination Survey (NHANES III).

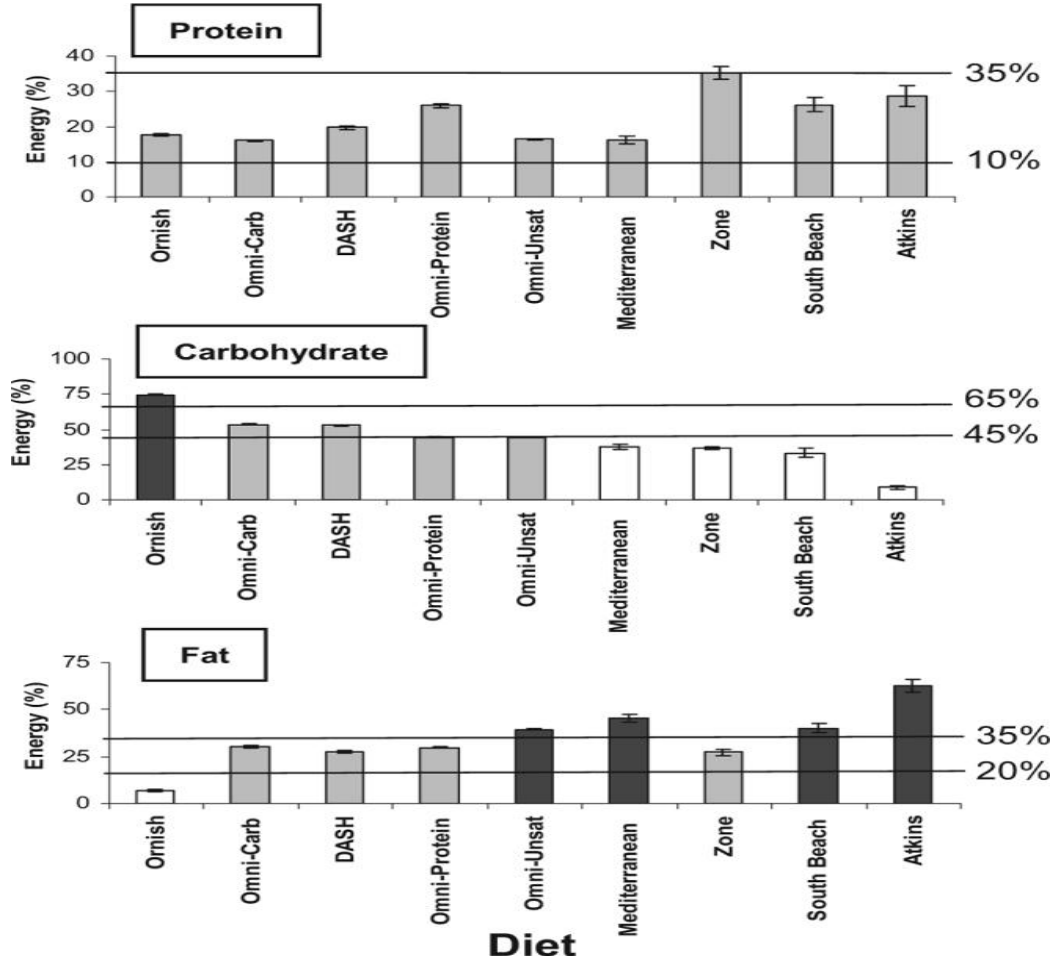


Macronutrient (%)	Ornish	Omni-Carb	DASH	AHA TLC	NHANES III	Omni-Protein	Omni-Unsat	Mediterranean	Zone	South Beach	Atkins
Protein	18	16	20	15	15	26	16	16	35	26	29
Carbohydrate	75	54	53	55	52	44	44	38	37	33	9
Fat	7	30	28	30	33	30	40	46	27	40	62

JR de Souza et al. Am J Clin Nutr. 2008 Jul;88(1):1-11.

Alternatives for macronutrient intake and chronic disease: a comparison of the OmniHeart diets with popular diets and with dietary recommendations[1–3]

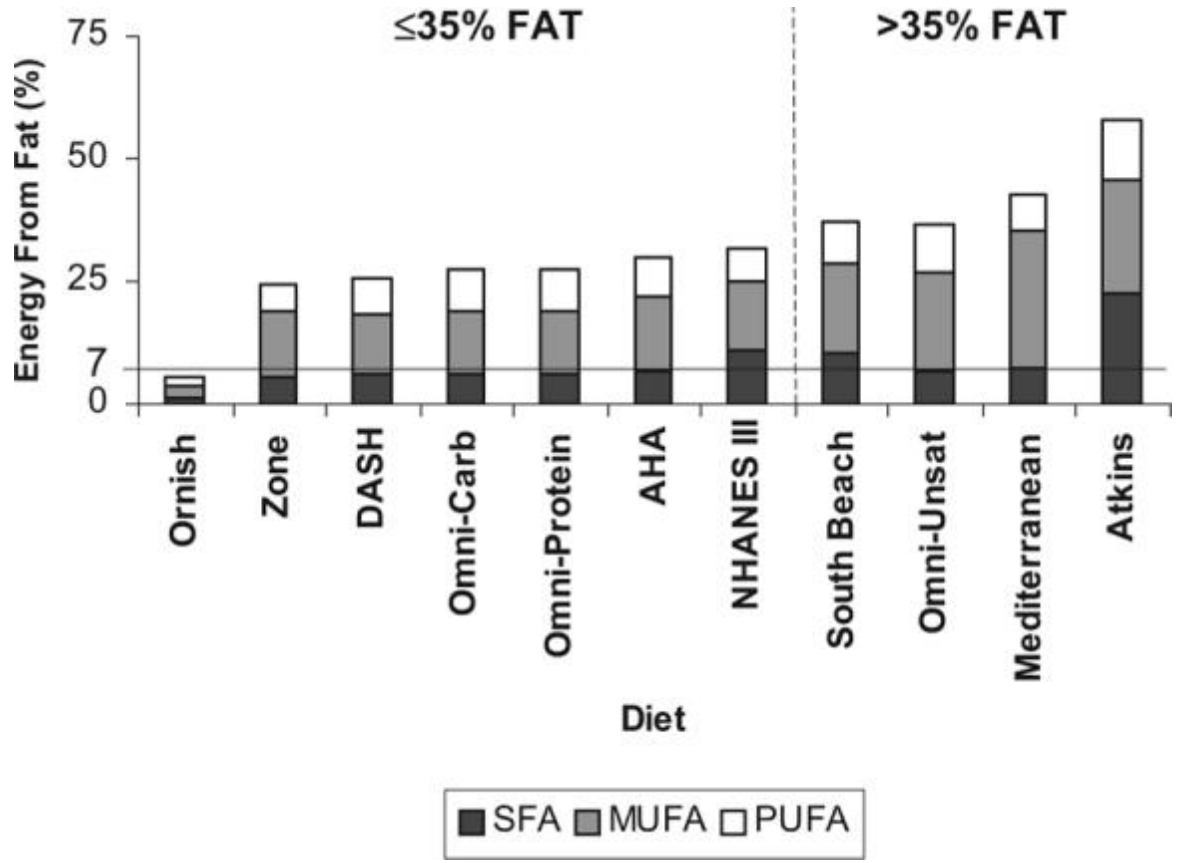
Comparison of the calculated macronutrient profiles (mean ± SEM) of various diet plans with the Institute of Medicine's Acceptable Macronutrient Distribution Ranges (AMDR). Solid horizontal lines represent the upper and lower limits of the AMDR for the macronutrient. ■, exceeds the AMDR; ■, meets the AMDR; □, failed to reach the minimum AMDR.



JR de Souza et al. Am J Clin Nutr. 2008 Jul;88(1):1-11.

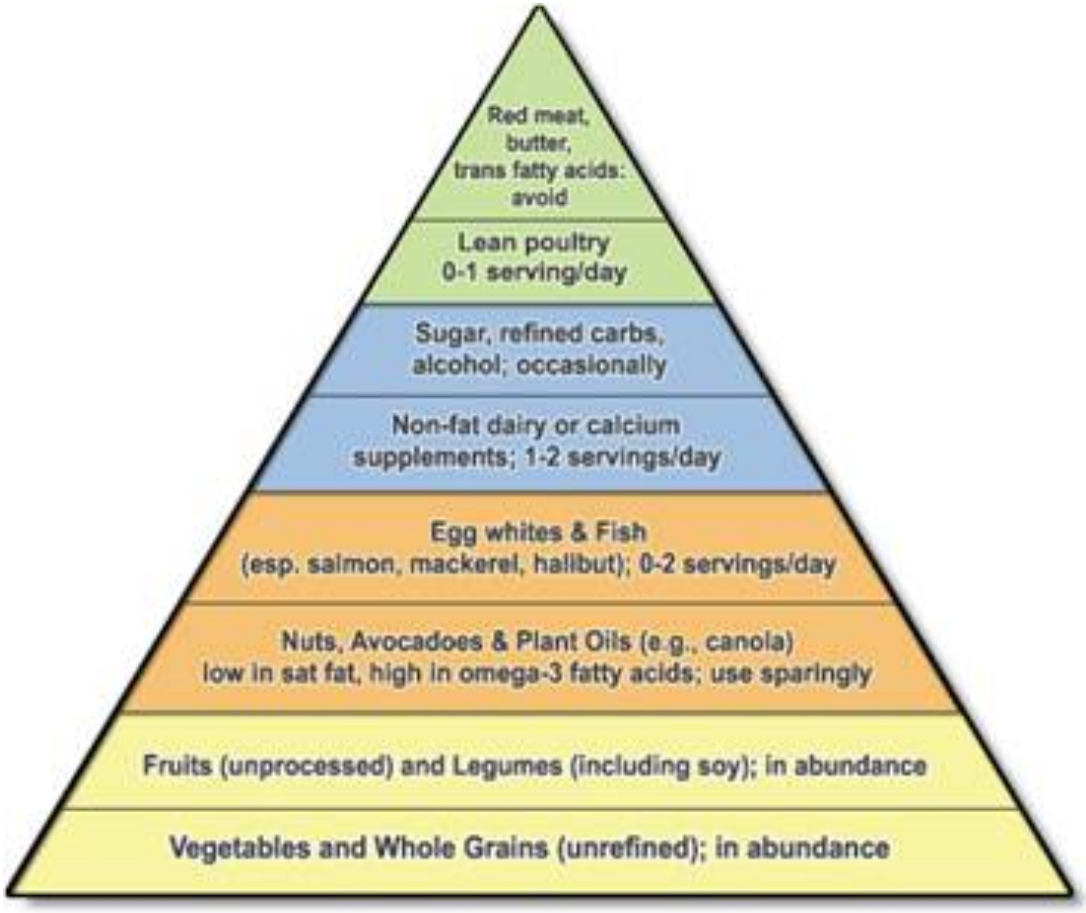
Alternatives for macronutrient intake and chronic disease: a comparison of the OmniHeart diets with popular diets and with dietary recommendations[1–3]

Typical fatty acid profiles of popular diets and typical US macronutrient intakes as reported in the third Health and Nutrition Examination Survey (NHANES III) as "reference points." Solid horizontal line represents the 7% upper level of intake for saturated fat proposed by the AHA.



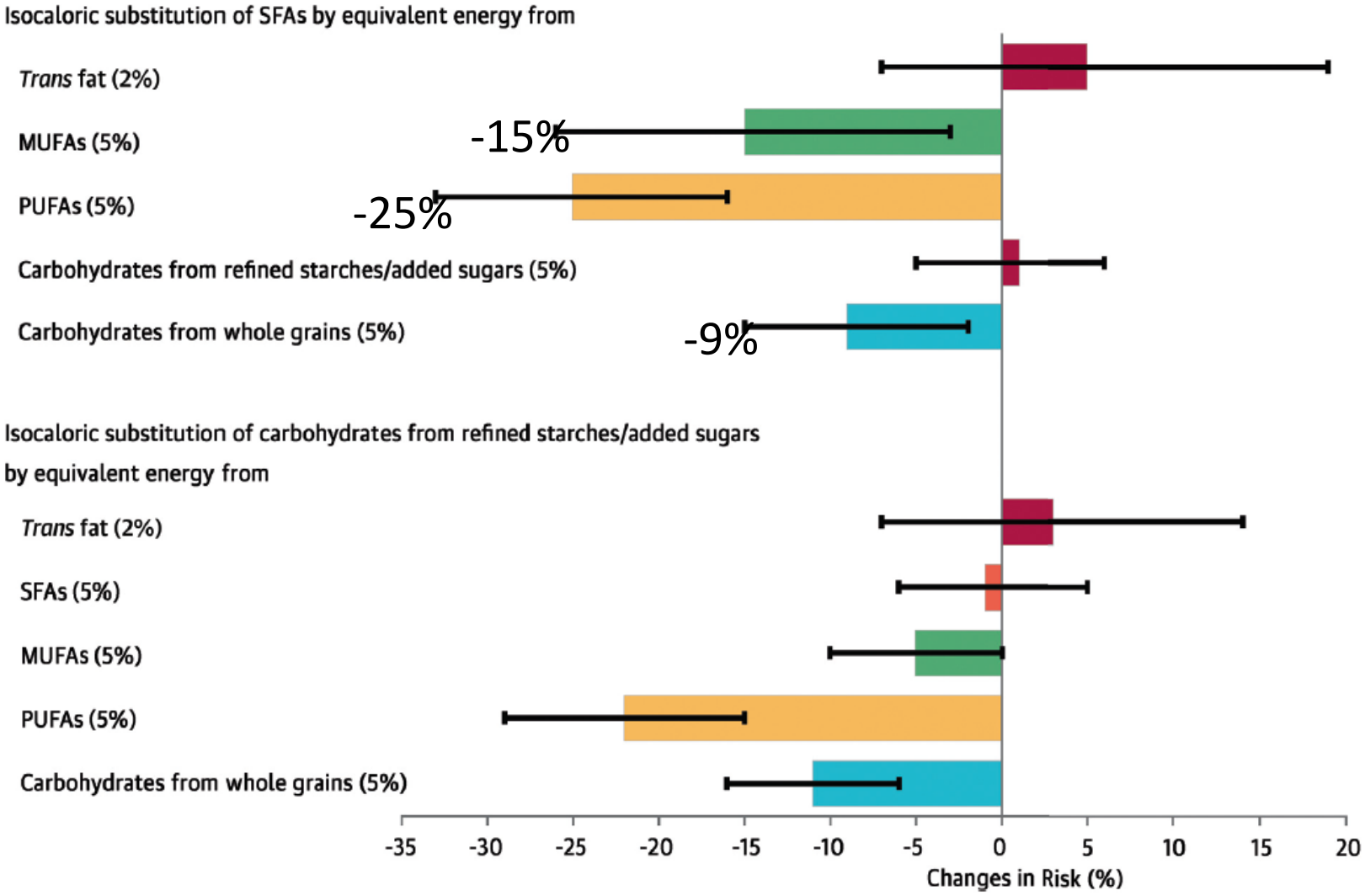
JR de Souza et al. Am J Clin Nutr. 2008 Jul;88(1):1-11.

La dieta Ornish



- E' sostanzialmente una dieta egetariana
- E' molto restrittiva
- Iperglucidica (70%En da carboidrati, non semplici) e ipolipidica (10% En)
- Non implica restrizione calorica
- Viene associata ad attività fisica regolare e alla riduzione dello stress
- Non è indicata per alcune condizioni particolari (età pediatrica, gravidanza, allattamento, anziano)

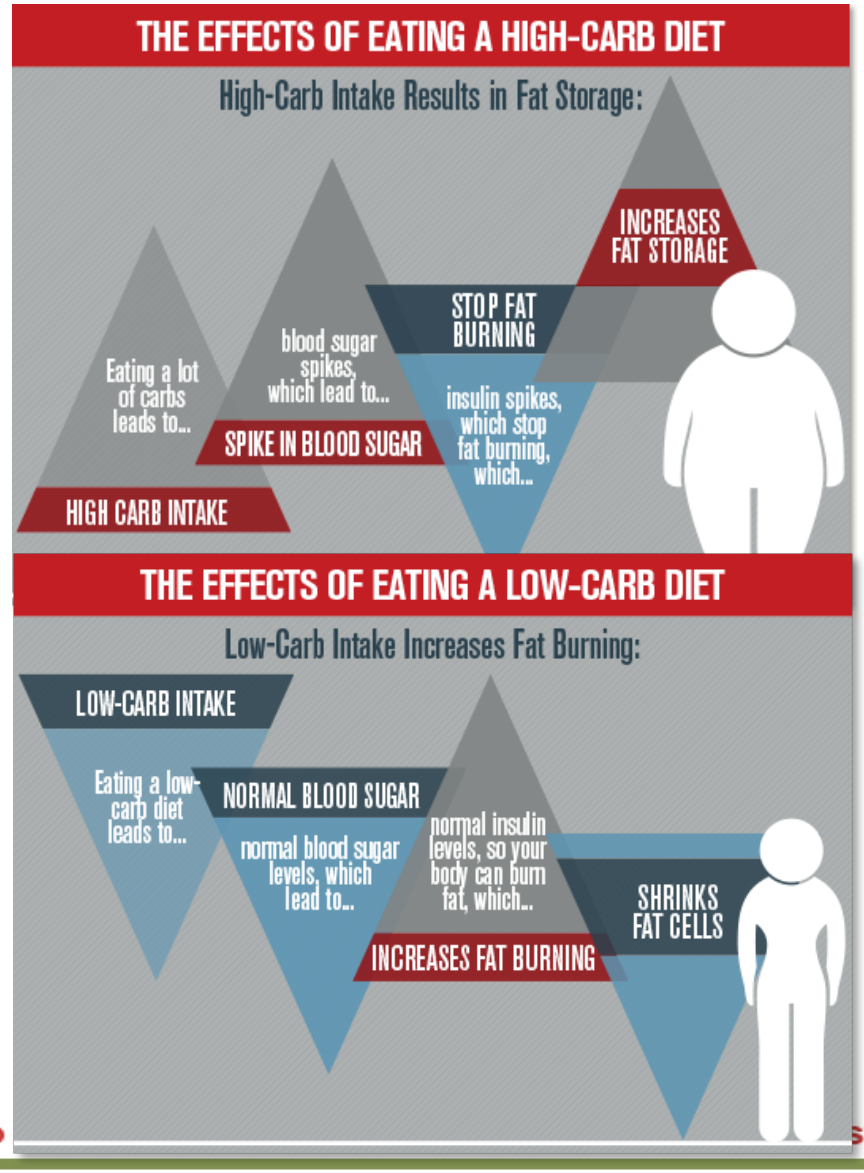
Saturated fats compared with unsaturated fats and sources of carbohydrates in relation to risk of CHD

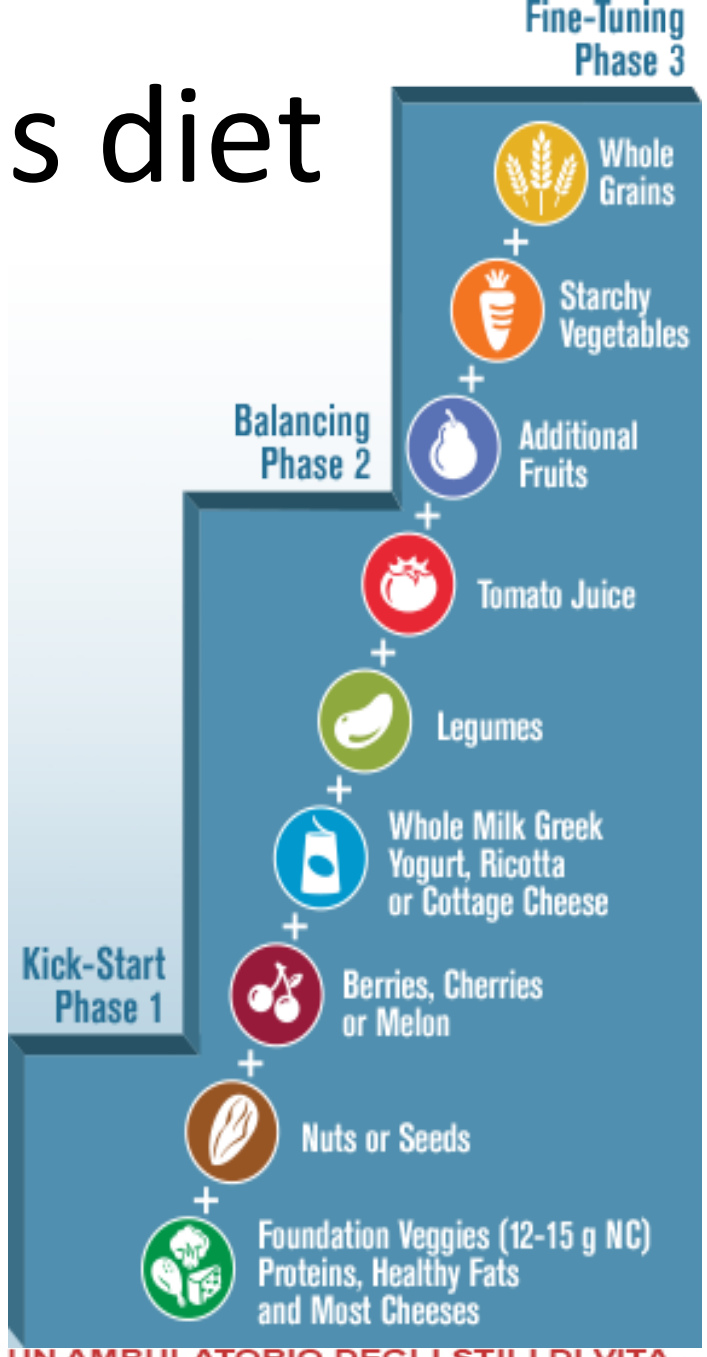


Li J et al, JACC 2015

P/C/F = 29/9/62

The Atkins diet





Why is it important to keep the Glycemic Response low?

1. Your body makes **less insulin**, and it is thus **less probable** to develop low blood sugar (hypoglicemia) after the meal, and **to become hungry** .
2. The body uses **fa**t (instead of glucose) **for energy** production
3. **Less blood sugar** is converted **into fat**

Eventually, body weight decreases

Are there other ways to keep the Glycemic Response low? Yes

If you select the **proper carbohydrates**, you will have, like in the low carb diets, a **low glycemic response**

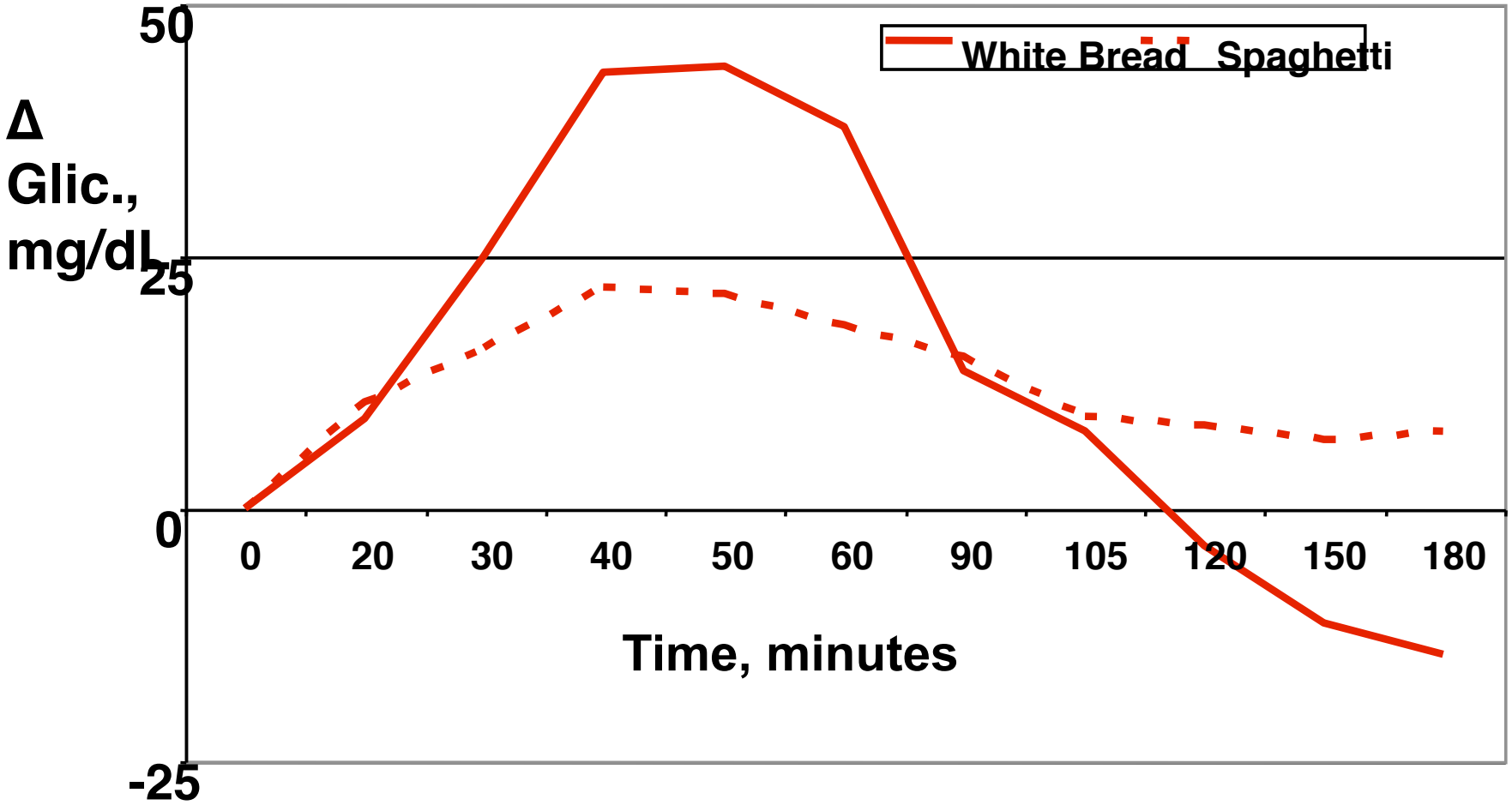
Low glycaemic index or low glycaemic load diets for overweight and obesity (Review)

Thomas D, Elliott EJ, Baur L

THE COCHRANE COLLABORATION®

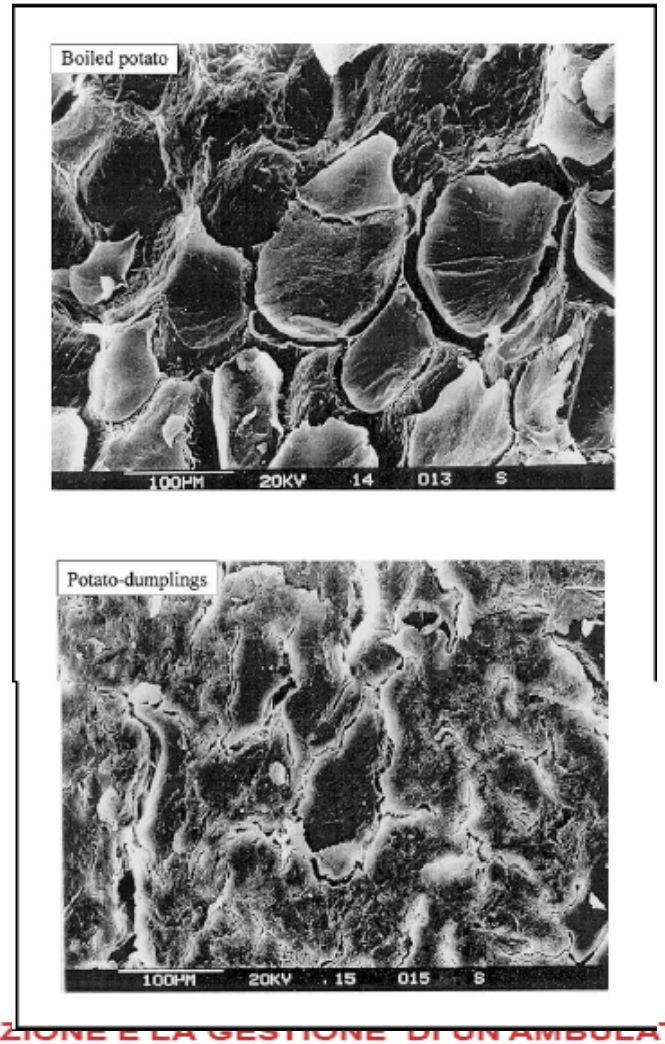
LOWERING THE GLYCAEMIC LOAD OF THE DIET APPEARS TO BE AN EFFECTIVE METHOD OF PROMOTING WEIGHT LOSS AND IMPROVING LIPID PROFILES AND CAN BE SIMPLY INCORPORATED INTO A PERSON'S LIFESTYLE.

GLYCEMIC RESPONSE AFTER A WHITE BREAD OR A SPAGHETTI MEAL



Ludwig, J Am Med Assoc, 2002

L'analisi al microscopio elettronico a scansione dimostra che gli gnocchi hanno una struttura compatta come altri alimenti a base di carboidrati a basso indice glicemico. Al contrario negli alimenti lievitati l'elevata porosità conseguente all'incorporazione di gas che espande durante la cottura, aumenta enormemente la superficie esposta all'attività enzimatica.

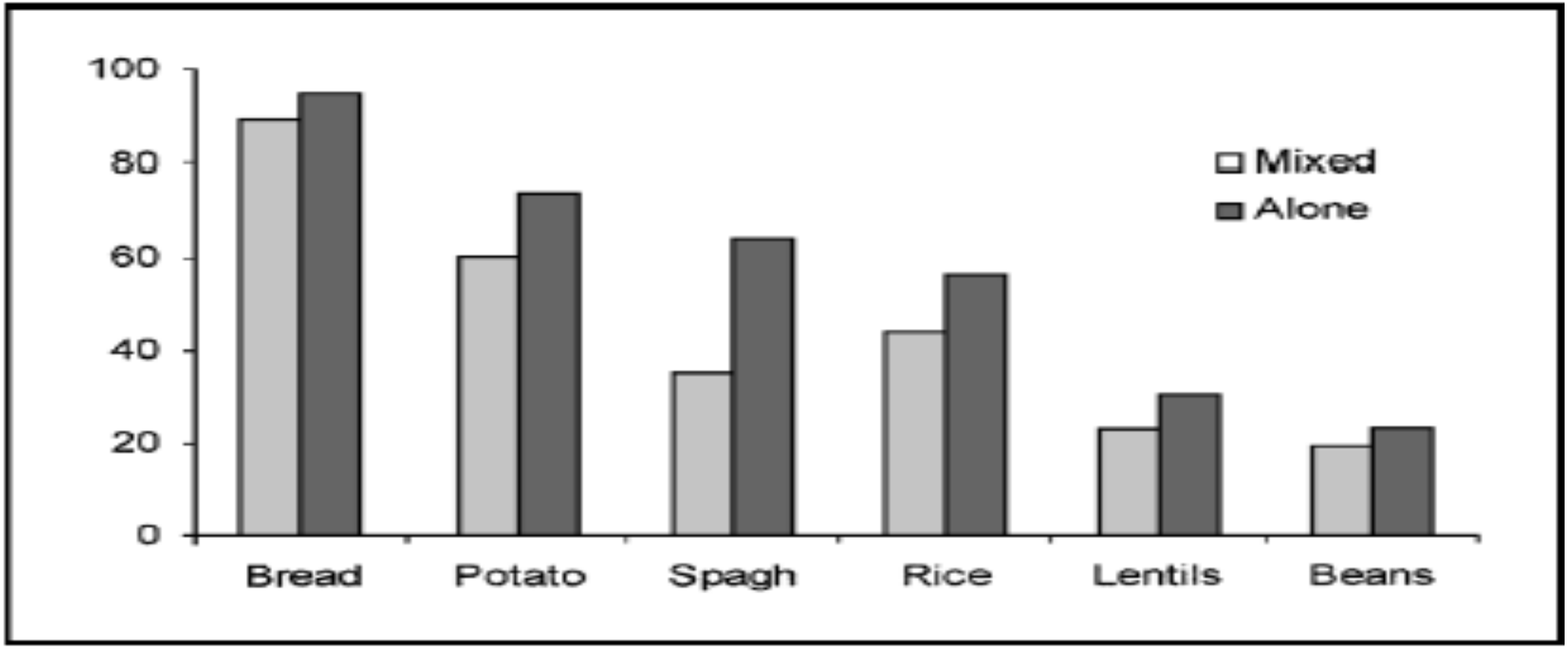


Riccardi, Nutrition Reviews, 2003

Indice Glicemico (IG), relativo al Pane Bianco, di alcuni alimenti

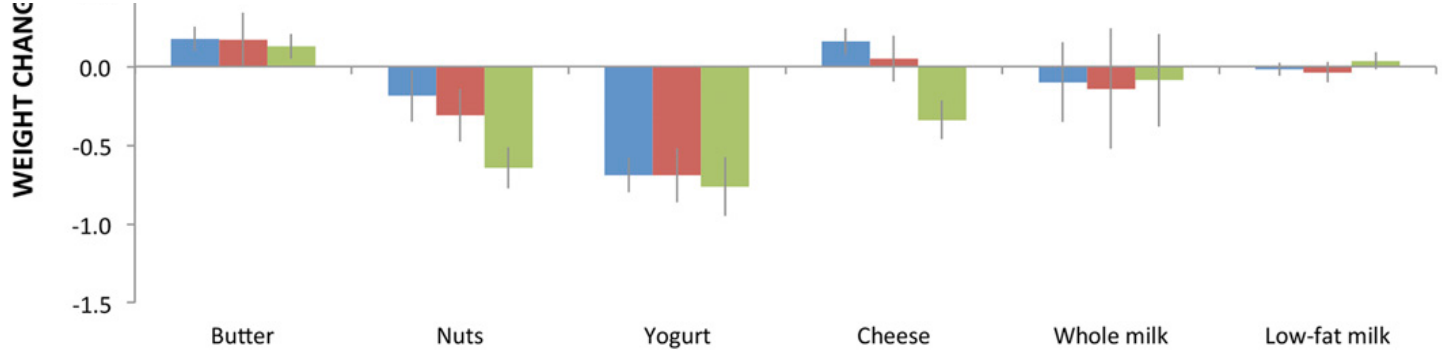
Alimento	Indice Glicemico
Pane bianco	100
Pomodori	13
Ciliegie	32
Fagioli	40/60
Mele	52
Spaghetti	52
Maccheroni	68
Pizza	86
Saccarosio	92
Polenta	106
Patate bollite	120
Glucosio	138

Indice glicemico di alcuni alimenti assunti singolarmente o con pasti composti



Association between 4-y changes in servings of protein foods with long-term weight change.

Proteine da fonti "magre" e carboidrati a basso indice glicemico promuovono e mantengono nel tempo un miglior controllo ponderale



Jessica D Smith et al. Am J Clin Nutr 2015;101:1216-1224

Fruit, vegetables and fiber and risk to develop overweight or obesity. The Women Health Study.

gain and risk of becoming overweight or obese, few have specifically investigated the impact of fruit and vegetable intake (16–19). In the European Prospective Investigation into Cancer and Nutrition Study, fruit and vegetable intake was not associated with weight change during a mean of 5 y of follow-up in 373,803 women and men aged between 25 and 70 y (17). However, in stratified analyses, an inverse association was observed between high fruit intake and weight change among women who were initially aged >50 y, of normal weight, never smokers, or had a low prudent dietary pattern score. The Nurses' Health Study examined 74,063 women followed for 12 y (16), comparing women with the largest increase vs. decrease in fruit and vegetable intake, and the RR of becoming obese was 0.76 (95% CI: 0.69, 0.86; *P*-trend: <0.0001). In 79,236 women and men of the Cancer Prevention Study II, higher vegetable consumption was associated with lower odds of gaining weight over a 10-y period (18).

decreases in body weigh
diets higher in fruits and
overweight or obese w
increasing intakes of fr
minerals reduced body
randomized trial of 97
density of the diet th
vegetables and decreased
resulted in both weight l
randomized trial of 49
pears but not oats redu
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Fruits and vegetables
several mechanisms. M
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control (45). Polypheno
found in fruits and ve

Fruits, vegeta

Fiber intake and PCR in 4.900 USA adults (NAHNES 99-00)

TABLE 3 Odds Ratios (ORs) and 95% Confidence Intervals (CIs) of the Likelihood of Elevated C-Reactive Protein (>3.0 mg/L)

Dietary Fiber Quartile (g/d)	Unadjusted Model		Adjusted Model		Highly Sensitive CRP (mg/L)	
	OR	95% CI	OR	95% CI	Median	95% CI
Q1 <8.4	1.00	1.00	1.00	1.00	2.30	2.10–2.51
Q2 8.4–13.3	0.95	0.78–1.17	0.75	0.53–1.07	2.04	1.74–2.34
Q3 13.3–19.5	0.75	0.60–0.95	0.64	0.43–0.96	1.89	1.46–2.33
Q4 >19.5	0.68	0.55–0.84	0.58	0.38–0.88	1.76*	1.58–1.94

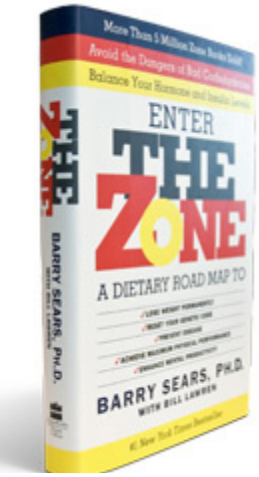
*The median for the highest quartile is significantly lower than the median for the lowest quartile ($p < 0.05$).

Adjusted models include age, race, gender, body mass index, smoking status, alcohol consumption, exercise, medications, and total caloric intake. Estimated United States population median highly sensitive CRP and 95% CI of the medians are shown for each quartile of fiber consumption.

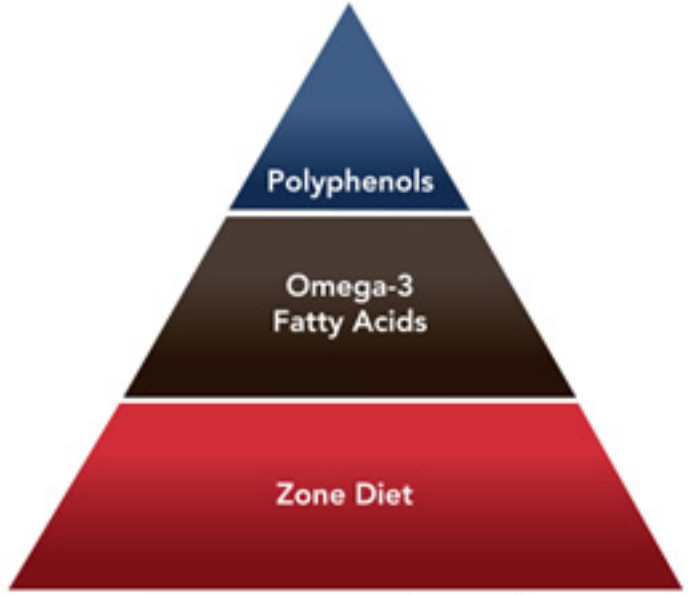
From a fiber intake < 8,4 g/die to an intake > 19,5 g/die, CRP decreases from 2,3 to 1,8 mg/L (- 20%; p<0,05)

Dr. Sears ZONE Labs

Leading Anti-Inflammatory Nutrition
Since 1995

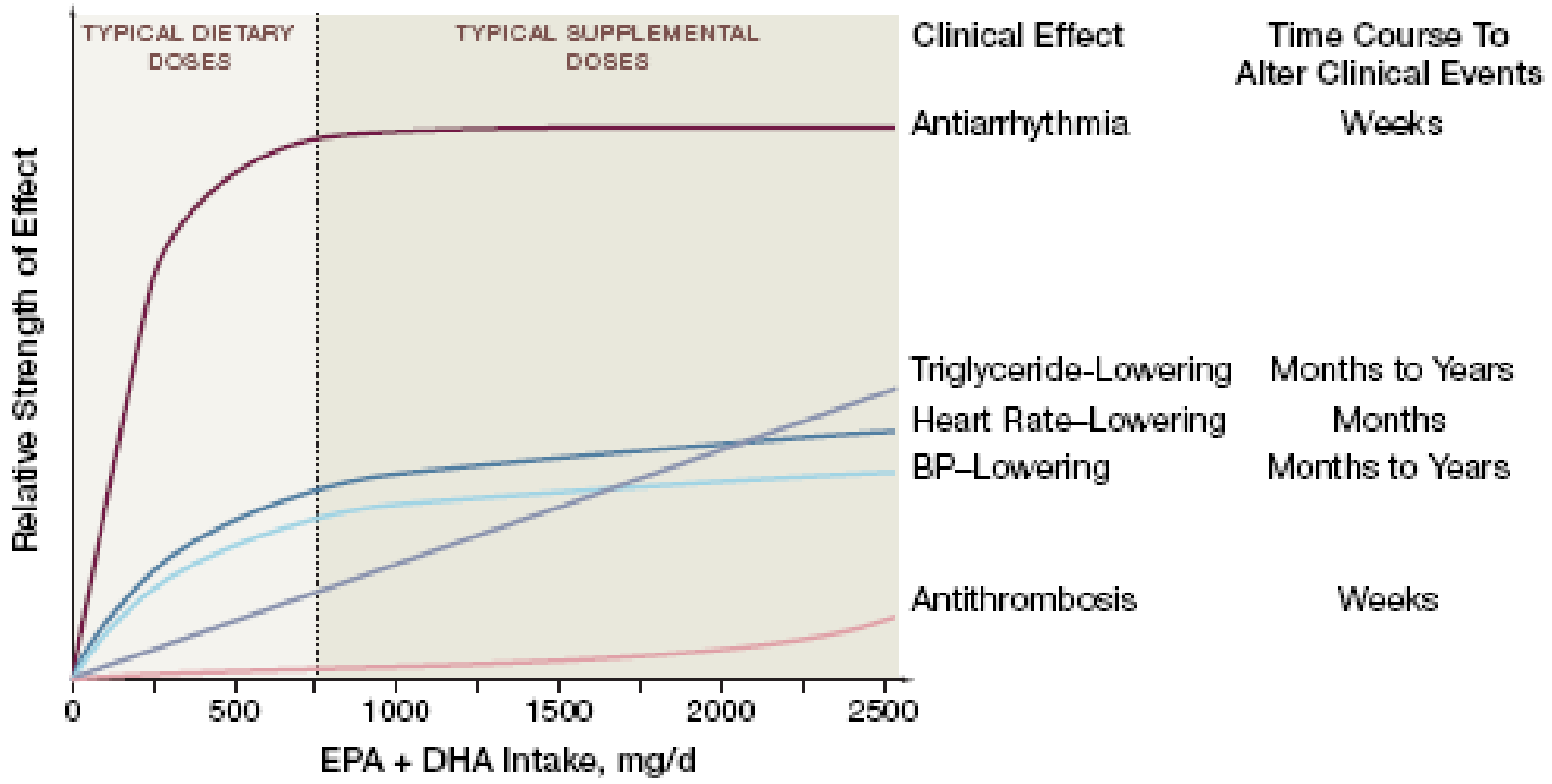


Zone Food Pyramid



Inflammatory Genes

Schema of Potential Dose Responses and Time Courses for Altering Clinical Events of Physiologic Effects of Fish or Fish Oil Intake



Mozaffarian & Rimm, JAMA 2006

Inflammatory Markers and Daily Fish Consumption in 1,514 men (18 - 87 years)and 1,528 women (18 - 89 years) from the ATTICA study

	Fish Consumption				
	No fish	<150 g/week	150–300 g/week	>300 g/week	p Value
Participants (%)	319 (11%)	1,719 (56%)	745 (24%)	259 (9%)	—
CRP (mg/L)	2.7 ± 1.2	2.0 ± 1.1†	2.0 ± 2.1†	1.8 ± 1.1†	0.004
IL-6 (ng/L)	1.5 ± 0.5	1.3 ± 0.6‡	1.2 ± 1.1†	1.0 ± 0.3†	0.03
TNF-alfa (mg/dL)	5.3 ± 3	5.1 ± 2	4.7 ± 3†	4.2 ± 2†	<0.001
Amyloid A (mg/dL)	6.4 ± 4	5.9 ± 4	5.1 ± 4‡	4.6 ± 3†	0.004
WBC (.000)	6.8 ± 3	6.7 ± 4	6.5 ± 4‡	6.5 ± 3‡	0.04

A Zampelas et al; J Am Coll Cardiol 2005; 46:120–4

CRP concentration and plasma omega-3 quartiles in 1,400 Finnish men

	r	β	Serum n-3 fatty acids quartile[a]				P for trend
			1 (n = 348)	2 (n = 349)	3 (n = 349)	4 (n = 349)	
Total n-3 polyunsaturated fatty acids	−0.06						
Model 1		−0.18	1.22 (1.11–1.34)	1.26 (1.14–1.38)	1.21 (1.10–1.33)	1.07 (0.97–1.18)	0.03
Model 2		−0.21	1.23 (1.13–1.35)	1.27 (1.16–1.38)	1.18 (1.08–1.28)	1.08 (0.99–1.17)	0.01
EPA + DPA + DHA	−0.04						
Model 1		−0.09	1.24 (1.13–1.37)	1.18 (1.07–1.30)	1.25 (1.13–1.37)	1.08 (0.98–1.19)	0.07
Model 2		−0.14	1.28 (1.17–1.40)	1.19 (1.09–1.30)	1.21 (1.11–1.32)	1.08 (0.99–1.17)	0.01
EPA	−0.0003						
Model 1		0.02	1.19 (1.08–1.31)	1.24 (1.12–1.36)	1.15 (1.04–1.26)	1.17 (1.06–1.29)	0.60
Model 2		−0.05	1.23 (1.13–1.35)	1.25 (1.14–1.36)	1.13 (1.04–1.24)	1.13 (1.04–1.24)	0.10
DPA	−0.21						
Model 1		−0.96	1.65 (1.50–1.81)	1.18 (1.07–1.29)	1.05 (0.96–1.16)	0.97 (0.88–1.06)	<0.001
Model 2		−0.69	1.51 (1.39–1.65)	1.18 (1.09–1.29)	1.07 (0.98–1.17)	1.03 (0.95–1.13)	<0.001
DHA	−0.05						
Model 1		−0.13	1.17 (1.06–1.29)	1.28 (1.16–1.41)	1.25 (1.14–1.38)	1.06 (0.96–1.16)	0.13
Model 2		−0.16	1.21 (1.12–1.33)	1.24 (1.13–1.35)	1.22 (1.12–1.33)	1.08 (0.99–1.18)	0.05
ALA	−0.10						
Model 1		−0.41	1.42 (1.29–1.56)	1.14 (1.04–1.25)	1.15 (1.04–1.26)	1.07 (0.97–1.17)	<0.001
Model 2		−0.22	1.30 (1.19–1.42)	1.13 (1.03–1.23)	1.18 (1.08–1.29)	1.14 (1.04–1.25)	0.08

Reinders I et al., Eur J Clin Nutr 2012

www.eatright.org, click the "MyProfile" link under your name at the top of the homepage, select "Journal Quiz" from the menu on your myAcademy page, click "Journal Article Quiz" on the next page, and then click the "Additional Journal CPE Articles" button to view a list of available quizzes, from which you may select the quiz for this article.

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subsequent synthesis of pro-inflamm
prostaglandin E_2 [PGE_2], leukotriene
[TXA_2]).[7-10] Elevated proinflammator
could drive up other biomarkers of i
leukin-6 [IL-6], tumor necrosis factor

1394 pubblicazioni → 15 lavori selezionati

Johnson GH et al, J Acad Nutr Diet, 2012

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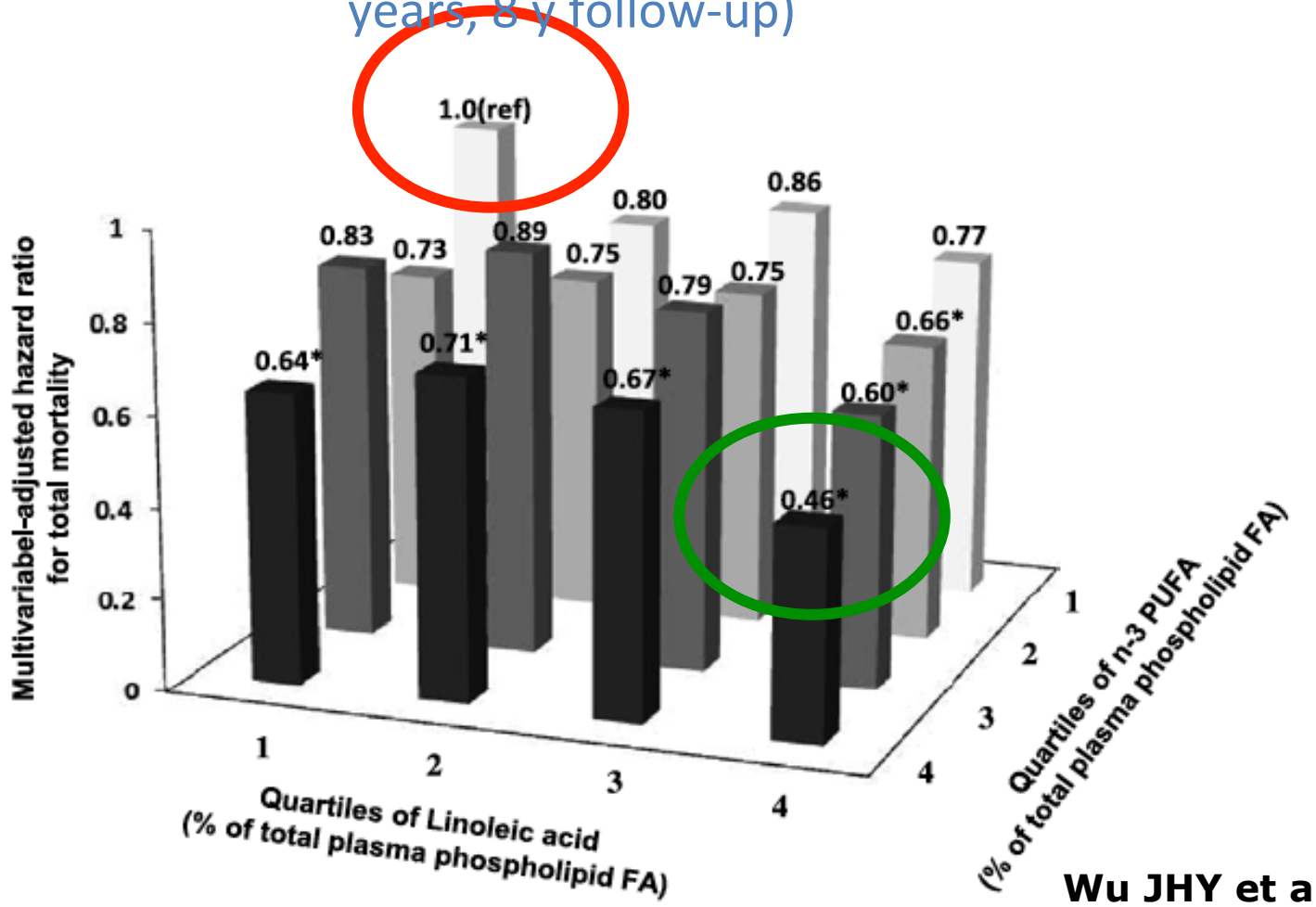
1394 pubblicazioni → 15 lavori selezionati

We conclude that virtually no evidence is available from randomized, controlled intervention studies among healthy, noninfant human beings to show that addition of LA to the diet increases the concentration of inflammatory markers.

Johnson GH et al, J Acad Nutr Diet, 2012

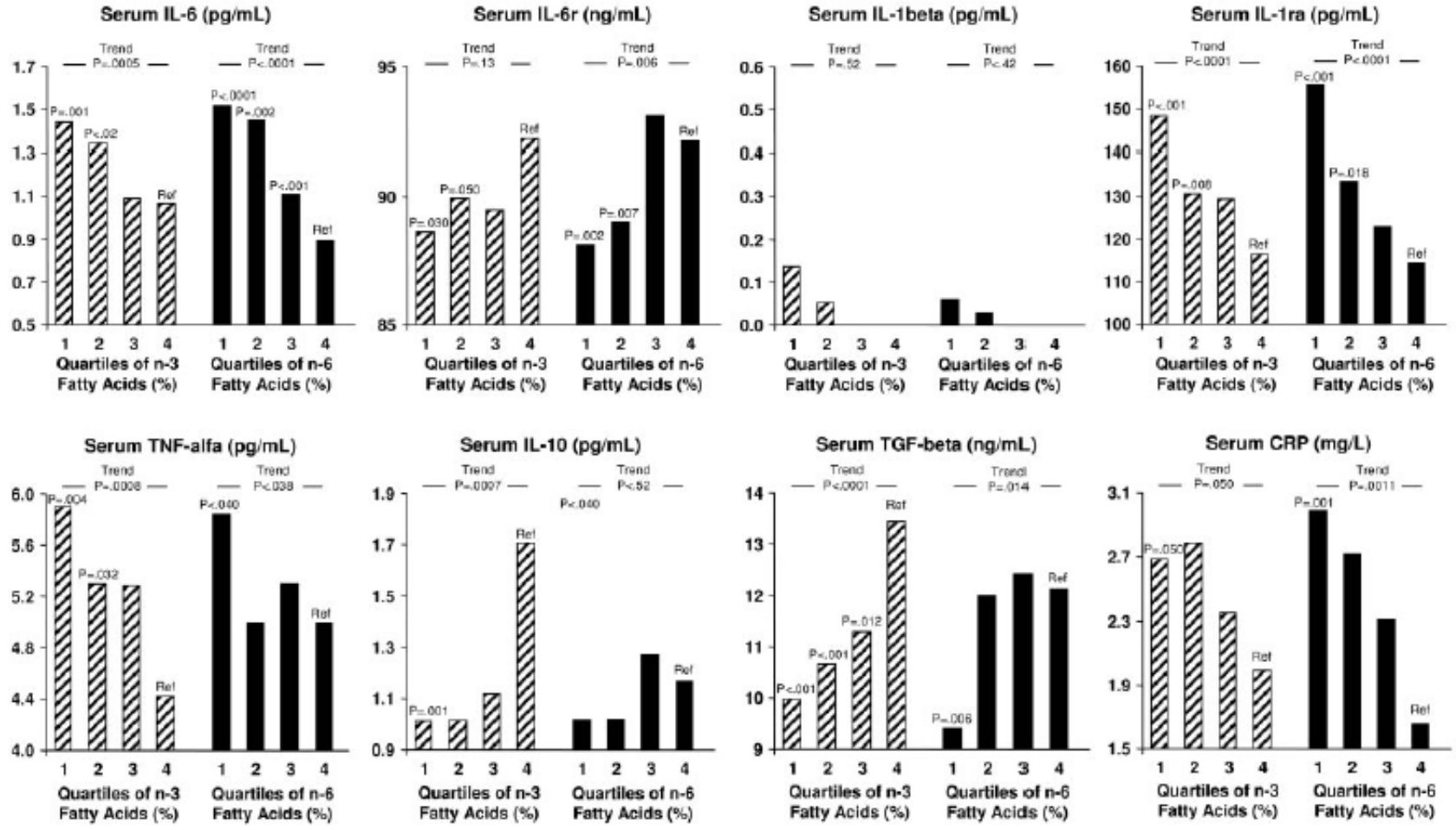
Omega-3, omega-6 and all-cause mortality

The Cardiovascular Health Study (2792 participants aged ≥65 years, 8 y follow-up)



Wu JHY et al, Circulation 2014

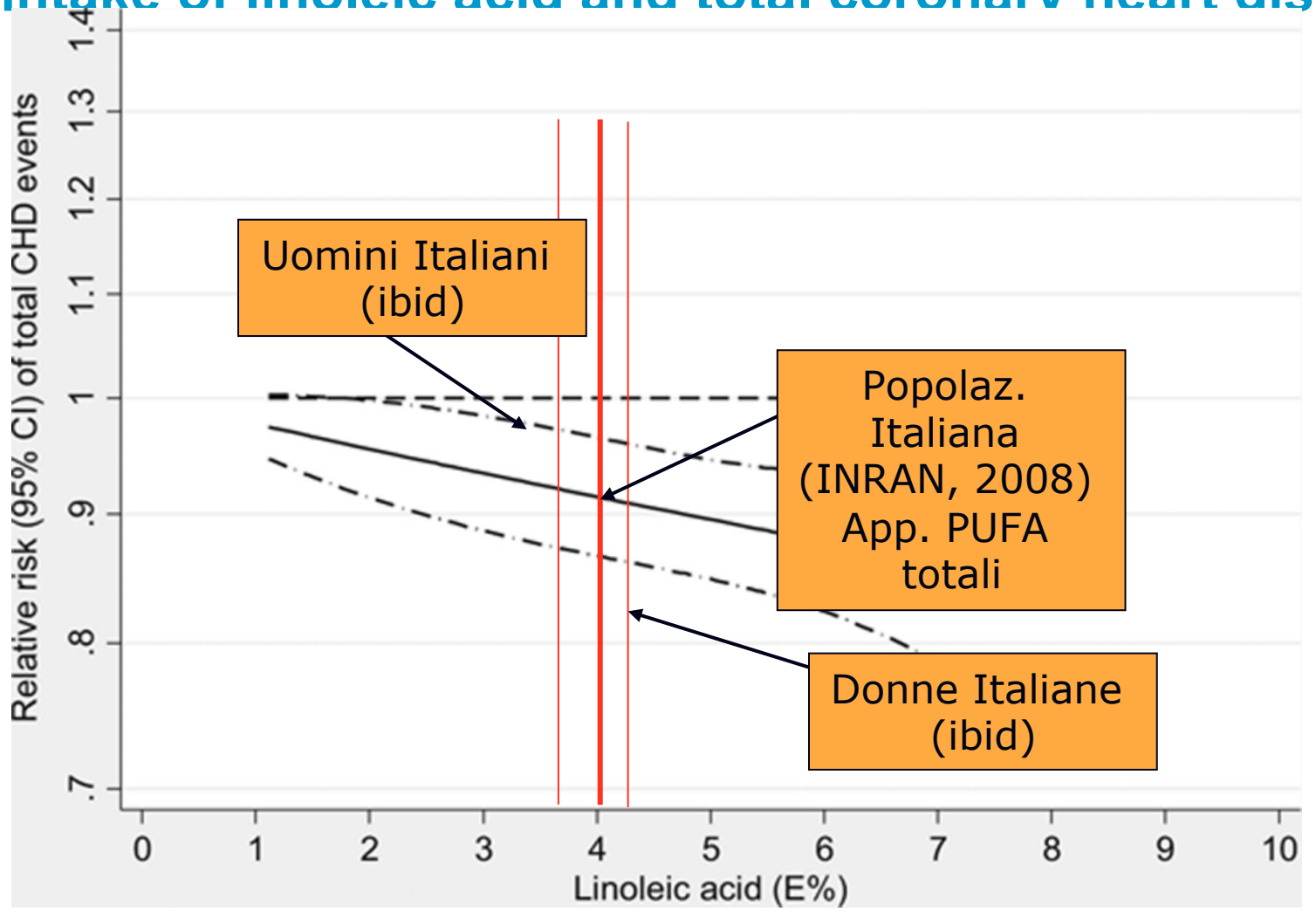
Plasma Polyunsaturated Fatty Acids and Circulating Inflammatory Markers in 1.123 free living subjects aged 20-98 (InCHIANTI study)



Ferrucci L et al, J Clin Endocrinol Metab 2006

Dietary omega-6 and CHD

Dose–response analysis for the curvilinear association between dietary intake of linoleic acid and total coronary heart disease



Maryam S. Farvid et al. Circulation. 2014;130:1568-1578

Weight Watchers

- Successful lifetime member (successful program completer)
- Low-calorie, exchange diet; clients prepare own meals
- “Get Moving” booklet distributed
- Behavioral weight control methods
- Group sessions, weekly meetings

Ahern et al. BMC Public Health 2011, 11:434
http://www.biomedcentral.com/1471-2458/11/434

BMC Public Health

RESEARCH ARTICLE Open Access

Weight Watchers on prescription: An observational study of weight change among adults referred to Weight Watchers by the NHS

Amy L Ahern[†], Ashley D Olson[†], Louise M Aston[†] and Susan A Jebb[*†]

Method:

Data was obtained from the WW NHS Referral Scheme database for 29,326 referral courses started after 2nd April 2007 and ending before 6th October 2009 [90% female; median age 49 years (IQR 38 - 61 years); median BMI 35.1 kg/m2 (IQR 31.8 - 39.5 kg/m2 .

Participants received vouchers (funded by the PCT following referral by a healthcare professional) to attend 12 WW meetings. Body weight was measured at WW meetings and relayed to the central database.

Results:

Median weight change for all referrals was -2.8 kg [IQR -5.9 - -0.7 kg] representing -3.1% initial weight.

33% of all courses resulted in loss of ≥5% initial weight. 54% of courses were completed. Median weight change for those completing a first course was -5.4 kg [IQR -7.8 - -3.1 kg] or -5.6% of initial weight.

57% lost ≥5% initial weight.

Conclusions: A third of all patients who were referred to WW through the WW NHS Referral Scheme and started a 12 session course achieved ≥5% weight loss, which is usually associated with clinical benefits.

Comparison of the Atkins, Ornish, Weight Watchers, and Zone Diets for Weight Loss and Heart Disease Risk Reduction: A Randomized Trial

Michael L. Dansinger; Joi Augustin Gleason; John L. Griffith; et al.

JAMA. 2005;293(1):43-53 (doi:10.1001/jama.293.1.43)

Variable	Diet Group, Mean Change (SD)			
	Atkins (n = 40)	Zone (n = 40)	Weight Watchers (n = 40)	Ornish (n = 40)
Weight, kg				
2 mo	–4.7 (2.9)†	–4.6 (3.4)†	–4.2 (3.8)†	–5.0 (3.0)†
6 mo	–5.8 (5.3)†	–5.2 (6.4)†	–4.7 (6.1)†	–6.7 (8.0)†
12 mo	–3.9 (6.0)†	–4.9 (6.9)†	–4.6 (5.4)†	–6.6 (9.3)†
BMI				
2 mo	–1.6 (1.0)†	–1.6 (1.2)†	–1.5 (1.3)†	–1.7 (1.0)†
6 mo	–2.0 (1.9)†	–1.7 (2.2)†	–1.7 (2.1)†	–2.4 (2.7)†
12 mo	–1.4 (2.1)†	–1.6 (2.3)†	–1.7 (1.9)†	–2.3 (3.2)†
Waist circumference, cm				
2 mo	–4.3 (2.9)†	–3.6 (3.5)†	–4.2 (4.3)†	–3.7 (3.2)†
6 mo	–5.9 (5.3)†	–4.4 (6.0)†	–4.7 (6.4)†	–4.8 (6.5)†
12 mo	–4.7 (5.4)†	–4.5 (6.0)†	–5.0 (6.0)†	–4.3 (7.2)‡
Total cholesterol, mg/dL				
2 mo	–2.3 (27)	–22.3 (26)†	–17.9 (29)†	–26.2 (30)†
6 mo	–1.6 (24)	–9.6 (23)‡	–10.8 (24)‡	–21.6 (33)†
12 mo	–8.1 (31)	–15.6 (43)	–12.6 (28)‡	–21.5 (26)†
LDL cholesterol, mg/dL				
2 mo	1.6 (20)	–11.7 (29)‡	–14.7 (27)†	–22.7 (27)†
6 mo	–4.9 (18)	–10.3 (26)	–9.4 (27)	–20.0 (28)†
12 mo	–13.5 (32)	–18.1 (41)‡	–14.2 (32)‡	–25.2 (20)†
HDL cholesterol, mg/dL				
2 mo	4.2 (6.7)†	2.2 (8.4)	–0.3 (13.0)	–4.9 (8.2)†
6 mo	7.0 (7.4)†	5.5 (12.7)‡	3.2 (10.3)	–2.8 (9.6)
12 mo	6.4 (8.8)†	5.1 (12.5)‡	5.2 (12.0)‡	–1.1 (9.3)
Total/HDL cholesterol ratio				
2 mo	–0.47 (0.71)†	–0.80 (1.12)†	–0.60 (2.03)	–0.24 (1.19)
6 mo	–0.70 (0.80)†	–0.71 (1.08)†	–0.80 (1.79)‡	–0.48 (1.46)
12 mo	–0.75 (0.81)†	–0.79 (1.21)†	–1.07 (1.98)‡	–0.59 (1.30)
LDL/HDL cholesterol ratio				
2 mo	–0.23 (0.63)‡	–0.40 (0.86)‡	–0.50 (1.70)	–0.29 (0.77)
6 mo	–0.55 (0.66)†	–0.49 (0.85)‡	–0.63 (1.56)‡	–0.41 (0.93)
12 mo	–0.73 (1.01)†	–0.61 (0.94)†	–0.85 (1.65)‡	–0.62 (0.87)†

Comparison of the Atkins, Ornish, Weight Watchers, and Zone Diets for Weight Loss and Heart Disease Risk Reduction: A Randomized Trial

Michael L. Dansinger; Joi Augustin Gleason; John L. Griffith; et al.

JAMA. 2005;293(1):43-53 (doi:10.1001/jama.293.1.43)

Variable	Diet Group, Mean Change (SD)			
	Atkins (n = 40)	Zone (n = 40)	Weight Watchers (n = 40)	Ornish (n = 40)
Triglycerides, mg/dL				
2 mo	–42 (72)†	–66 (112)†	–11 (43)	–1 (90)
6 mo	–19 (53)	–23 (70)	–2 (64)	–4 (99)
12 mo	–2 (117)	4 (183)	–20 (75)	11 (53)
Systolic BP, mm Hg				
2 mo	–5.4 (15)‡	–4.9 (15)	–5.9 (14)‡	–1.8 (10)
6 mo	–6.7 (12)†	–6.1 (17)	–6.4 (16)‡	–1.2 (12)
12 mo	0.3 (17)	2.1 (18)	–4.1 (16)	0.9 (11)
Diastolic BP, mm Hg				
2 mo	–5.5 (9.0)†	–5.8 (8.0)†	–3.7 (8.0)‡	–3.4 (8.1)‡
6 mo	–7.3 (7.4)†	–6.2 (10.8)†	–2.4 (7.9)	–0.5 (8.6)
12 mo	–2.6 (10.3)	–1.8 (11.8)	–2.6 (7.8)	0.4 (6.6)
Glucose, mg/dL				
2 mo	–12.7 (34)‡	–10.8 (31)	–6.6 (26)	–4.2 (27)
6 mo	–14.1 (34)	–12.6 (40)	–5.0 (25)	–9.6 (34)
12 mo	2.5 (42)	–6.4 (22)	–7.1 (23)	–8.2 (43)
Insulin, µIU/mL				
2 mo	–6.5 (15)‡	–8.6 (13)†	–2.2 (7)	–2.3 (15)
6 mo	–4.1 (15)	–3.0 (20)	–3.4 (8)‡	–0.7 (25)
12 mo	–2.3 (9)	–8.5 (17)‡	–4.1 (7)†	–5.9 (8)‡
C-reactive protein, mg/L				
2 mo	–0.42 (1.8)	–0.27 (2.1)	–0.05 (1.3)	–0.84 (3.0)
6 mo	–1.29 (2.6)‡	–0.65 (2.3)	–0.67 (1.7)‡	–1.33 (3.8)
12 mo	–1.33 (2.8)‡	–0.88 (2.6)	–0.88 (1.6)†	–1.76 (3.1)‡

Comparison of the Atkins, Ornish, Weight Watchers, and Zone Diets for Weight Loss and Heart Disease Risk Reduction: A Randomized Trial

Michael L. Dansinger; Joi Augustin Gleason; John L. Griffith; et al.

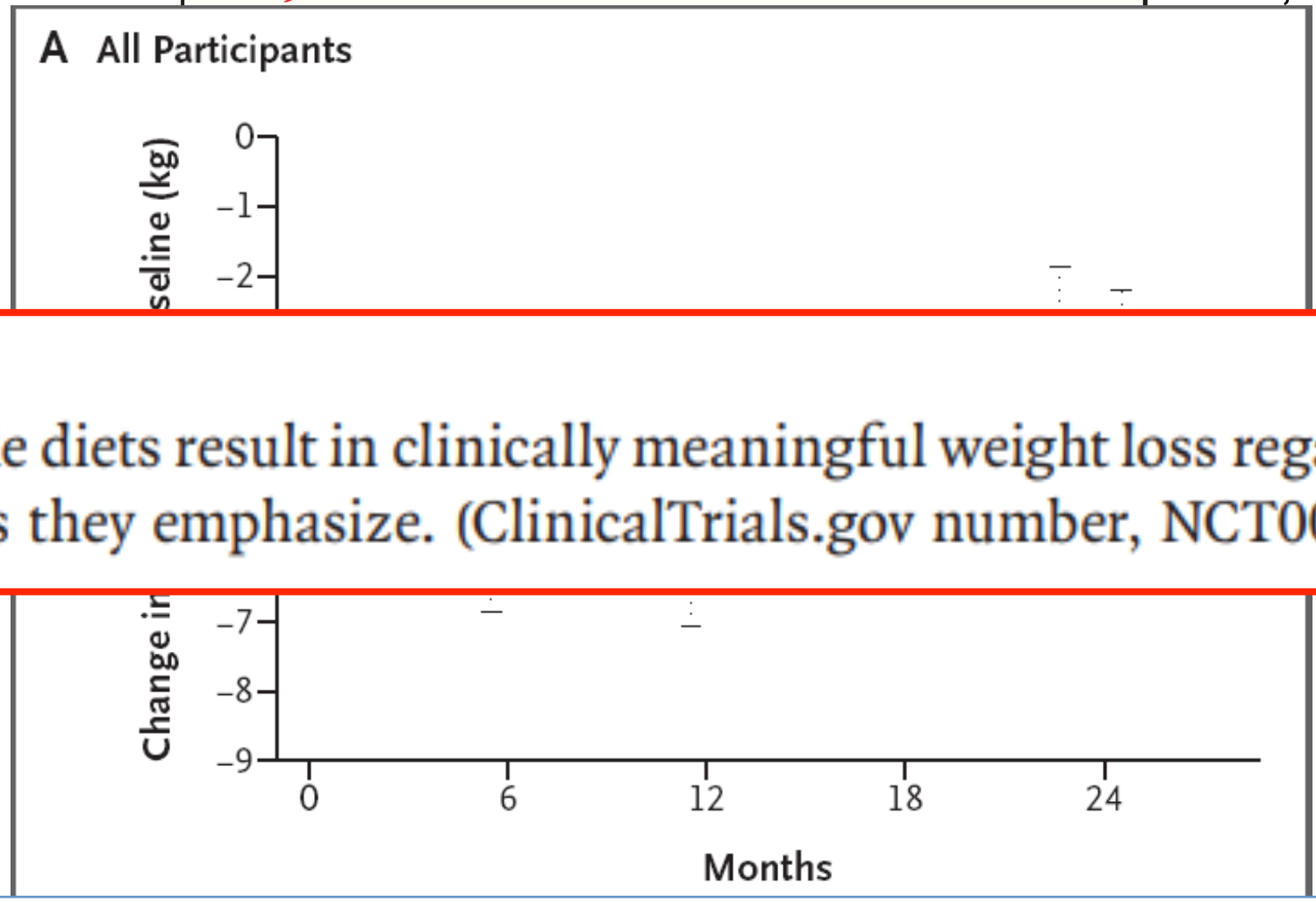
JAMA. 2005;293(1):43-53 (doi:10.1001/jama.293.1.43)

Conclusion

Each popular diet modestly reduced body weight and several cardiac risk factors at 1 year. Overall dietary adherence rates were low, although increased adherence was associated with greater weight loss and cardiac risk factor reductions for each diet group.

The NEW ENGLAND JOURNAL of MEDICINE

F Sacks et al.
2009;360:859-73.



CONCLUSIONS

Reduced-calorie diets result in clinically meaningful weight loss regardless of which macronutrients they emphasize. (ClinicalTrials.gov number, NCT00072995.)

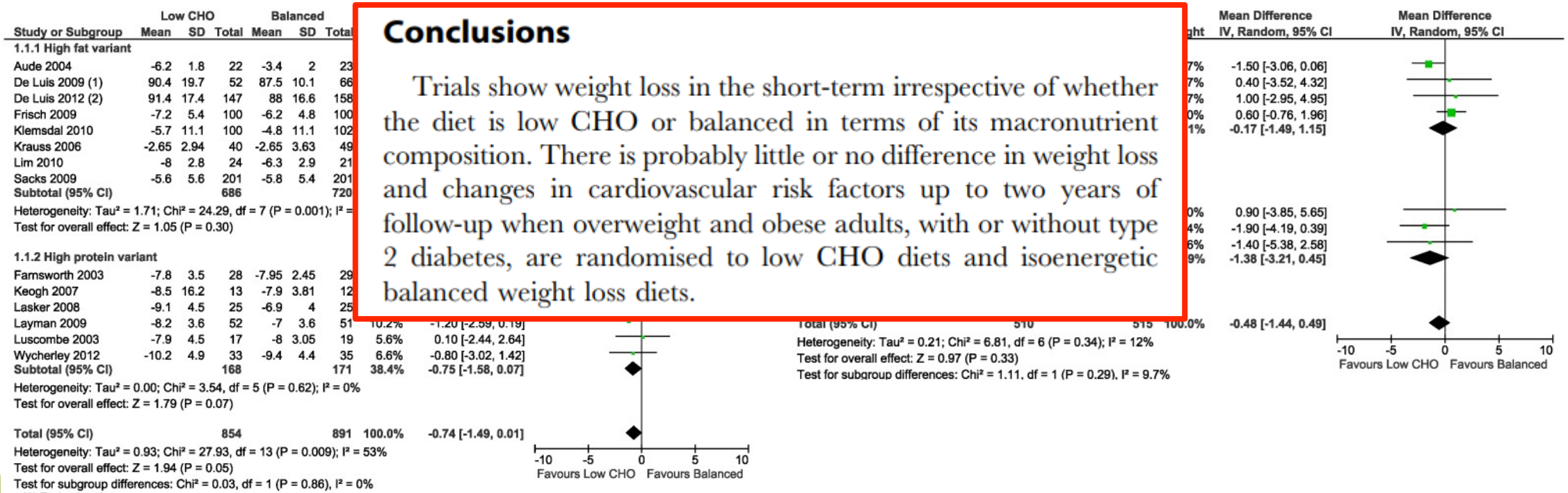
Low Carbohydrate versus Isoenergetic Balanced Diets for Reducing Weight and Cardiovascular Risk: A Systematic Review and Meta-Analysis

Celeste E. Naude[1]*, Anel Schoonees[1], Marjanne Senekal[2], Taryn Young[1,3], Paul Garner[4], Jimmy Volmink[1,3]

Forest plot of low carbohydrate versus balanced diets in overweight and obese adults for weight loss (kg)

3-6 months

1-2 years



Conclusions

Trials show weight loss in the short-term irrespective of whether the diet is low CHO or balanced in terms of its macronutrient composition. There is probably little or no difference in weight loss and changes in cardiovascular risk factors up to two years of follow-up when overweight and obese adults, with or without type 2 diabetes, are randomised to low CHO diets and isoenergetic balanced weight loss diets.

PLOS ONE 1 July 2014 | Volume 9 | Issue 7 | e100652

From: **Effect of Low-Fat vs Low-Carbohydrate Diet on 12-Month Weight Loss in Overweight Adults and the Association With Genotype Pattern or Insulin SecretionThe DIETFITS Randomized Clinical Trial**

JAMA. 2018;319(7):667-679. doi:10.1001/jama.2018.0245

Table 3. 12-Month Change Estimates for Anthropometric Variables by Diet

	12-mo Change Estimate (95% CI)[a]		
	Healthy Low-Fat Diet (n = 305)	Healthy Low-Carbohydrate Diet (n = 304)	Between-Group Difference (95% CI)[b]
Weight, kg	−5.29 (−5.93 to −4.65)	−5.99 (−6.63 to −5.35)	0.70 (−0.21 to 1.60)
Body mass index[c]	−1.75 (−1.97 to −1.52)	−2.07 (−2.30 to −1.85)	0.33 (0.01 to 0.64)
Body fat %[d]	−1.97 (−2.38 to −1.56)	−2.15 (−2.54 to −1.75)	0.18 (−0.40 to 0.75)
Waist circumference, cm	−3.74 (−4.64 to −2.84)	−4.41 (−5.31 to −3.51)	0.67 (−0.60 to 1.94)
Lipid level, mmol/L			
High-density lipoprotein cholesterol	0.40 (−0.37 to 1.18)	2.64 (1.87 to 3.41)	−2.24 (−3.33 to −1.15)
Low-density lipoprotein cholesterol	−2.13 (−4.70 to 0.43)	3.63 (1.04 to 6.19)	−5.74 (−9.38 to −2.09)
Did not have metabolic syndrome at baseline or 12 mo	128 (42.0)	137 (45.1)	
Did not have metabolic syndrome at baseline but had metabolic syndrome at 12 mo	13 (4.3)	11 (3.6)	
Respiratory exchange ratio[e]	−0.008 (−0.018 to 0.002)	−0.027 (−0.037 to −0.018)	0.020 (0.006 to 0.033)
Resting energy expenditure, kcal[d]	−66.45 (−96.65 to −36.26)	−76.93 (−106.68 to −47.19)	10.48 (−31.91 to 52.87)
Energy expenditure, kcal/kg/d	0.55 (0.20 to 0.90)	0.49 (0.13 to 0.84)	0.06 (−0.44 to 0.56)

SI conversion factors: To convert glucose to mmol/L, multiply by 0.0555; high-density and low-density lipoprotein cholesterol to mg/dL, divide by 0.0259; insulin to pmol/L, multiply by 6.945; triglycerides to mg/dL, divide by 0.0113.

[a] Data were missing for 91 participants in the healthy low-fat diet group and 86 in the healthy low-carbohydrate diet group (almost exclusively due to dropout).

[b] Healthy low-fat diet minus healthy low-carbohydrate diet.

[c] Calculated as weight in kilograms divided by height in meters squared.

[d] There were missing data for 138 participants in the healthy low-fat diet group and 123 in the healthy low-carbohydrate diet group. This was due to a combination of dropout and not having any data for cohort 1.

[e] Indicates the blood concentration of insulin at the 30-minute time point of an oral glucose tolerance test.

[f] Defined by Adult Treatment Panel III guidelines from the National Cholesterol Education Program.[26]

[g] There were missing data for 125 participants in the healthy low-fat diet group and 121 in the healthy low-carbohydrate diet group due to a combination of dropout and not having any data for cohort 1.

Conclusions

In this 12-month weight loss diet study, there was no significant difference in weight change between a healthy low-fat diet vs a healthy low-carbohydrate diet, and neither genotype pattern nor baseline insulin secretion was associated with the dietary effects on weight loss. In the context of these 2 common weight loss diet approaches, neither of the 2 hypothesized predisposing factors was helpful in identifying which diet was better for whom.

AHA Protein Criteria	Atkins[29]	Zone[30]	Protein Power[31]	Sugar Busters[32]	Stillman[28]
Total protein is not excessive (average 50–100 g/d, proportional 15–20% kcal/day to carbohydrates and fat)	No.	No.	No.	No.	No.
	1st 2 weeks = 125 g/d (36%)	127 g/d (34%)	91 g/d (26%)	71 g/d (27%)	162 g/d (64%)
	Ongoing weight loss = 161 g/d (35%)				
	Maintenance = 110 g/d (24%)				
Carbohydrates are not omitted or severely restricted. Minimum of 100 g/d	No.	Yes.	No.	Yes.	No.
	1st 2 weeks = 28 g/d (5%)	135 g/d (36%)	56 g/d (16%)	114 g/d (52%)	7 g/d (3%)
	Ongoing weight loss = 33 g/d				
	Maintenance = Yes 128 g/d				
Total fat (30%) and saturated fat (10%) are not excessive	No.	Yes.	No.	Yes.	No.
	1st 2 weeks = 53% fat, 26% saturated fat per day	29% total calories, 4% saturated fat per day	54% total fat, 18% saturated fat per day	21% total calories, 4% saturated fat per day	33% total calories, 13% saturated fat per day
Total diet can be safely implemented over the long term by providing nutrient adequacy and support a healthful eating plan to prevent increases in disease risk	No.	No.	No.	No.	No.
	Limited food choices. Diet low in fiber, vitamin D, thiamine, pantothenic acid, copper, magnesium, manganese, potassium, calcium.* High in total fat and saturated fat	Food must be eaten in required proportions of protein, fat, carbohydrates. Menus not appealing, vegetable portions very large. Low in copper*	Not practical for long term. Rigid rules. Diet low in calcium, fiber, pantothenic acid, copper, manganese.* High in total fat and saturated fat	Eliminates many carbohydrate foods. Discourages eating fruit with meals. Low in calcium, vitamin D, vitamin E, pantothenic acid, copper, potassium*	Eliminates many foods. Diet low in fiber, vitamin A, thiamine, vitamin C, vitamin D, folate, pantothenic acid, calcium, copper, magnesium, manganese, potassium*

AHA Science Advisory, Circulation 2001

Med Diet is as effective as Low Carb diet in weight loss

weight loss and appear to be just as sa
low-fat diet. In addition to producing we
in this moderately obese group of part
the low-carbohydrate and Mediterranean
some beneficial metabolic effects, a re
gesting that these dietary strategies migh
sidered in clinical practice and that diets
individualized according to personal pre
and metabolic needs. The similar calor
achieved in all diet groups suggests that a

The New Eng
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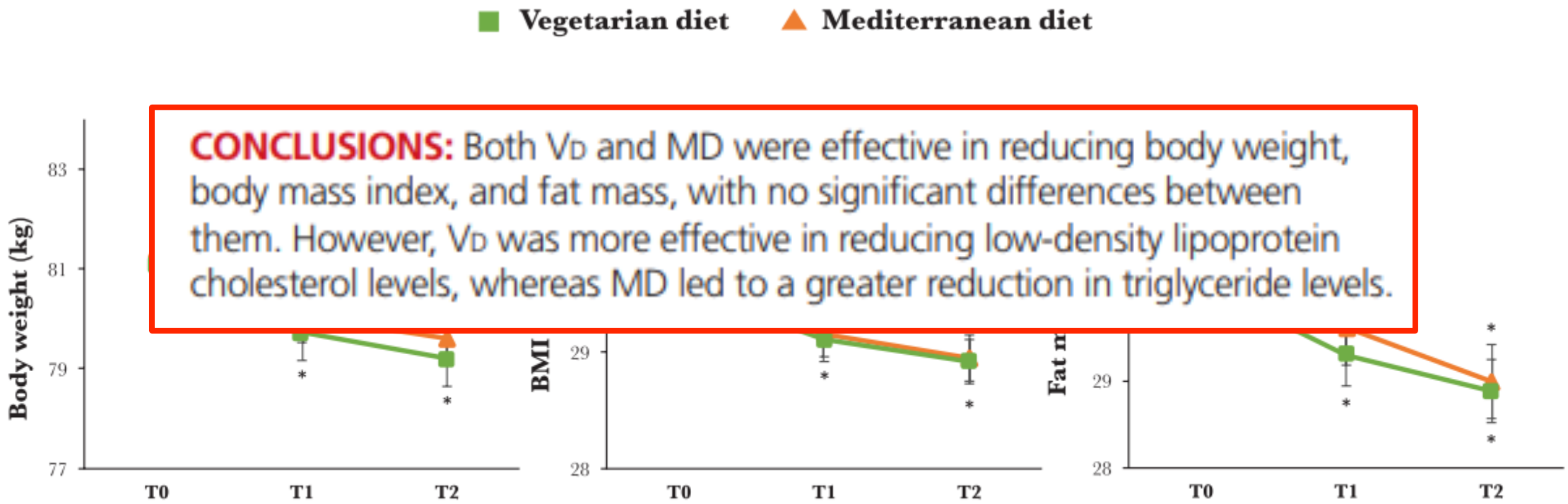
Shai I et al, N Engl J Med 2008

Low-Calorie Vegetarian Versus Mediterranean Diets for Reducing Body Weight and Improving Cardiovascular Risk Profile

CARDIVEG Study (Cardiovascular Prevention With Vegetarian Diet)



CONCLUSIONS: Both VD and MD were effective in reducing body weight, body mass index, and fat mass, with no significant differences between them. However, VD was more effective in reducing low-density lipoprotein cholesterol levels, whereas MD led to a greater reduction in triglyceride levels.

F Sofi et al. Circulation. 2018;137:00–00. DOI: 10.1161/CIRCULATIONAHA.117.030088

COMMENTARY www.jpeds.com • THE JOURNAL OF PEDIATRICS

The Gluten-Free Diet: Recognizing Fact, Fiction, and Fad

Norelle R. Reilly, MD[1,2]

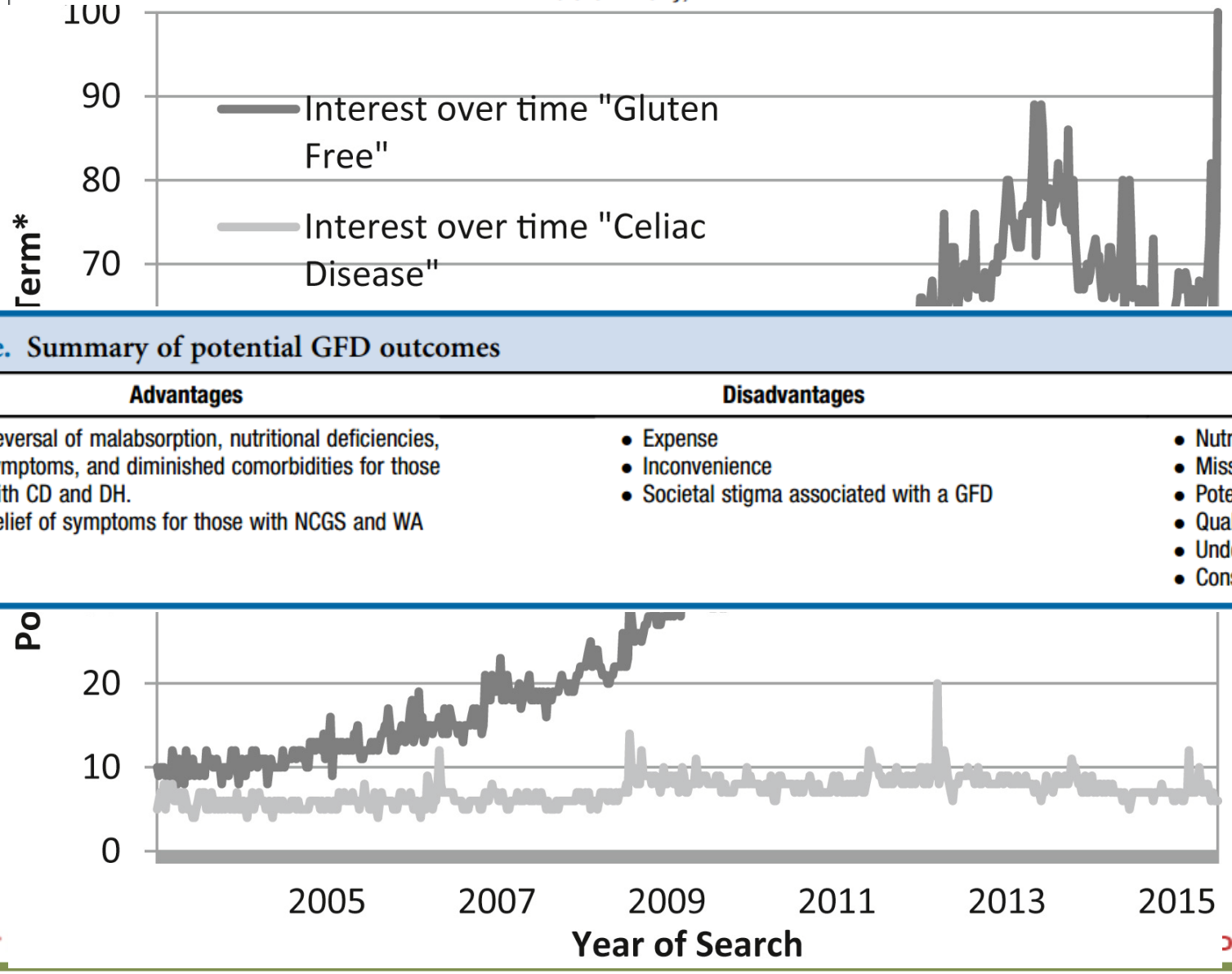


Table. Summary of potential GFD outcomes

Advantages	Disadvantages	Risks
• Reversal of malabsorption, nutritional deficiencies, symptoms, and diminished comorbidities for those with CD and DH. • Relief of symptoms for those with NCGS and WA	• Expense • Inconvenience • Societal stigma associated with a GFD	• Nutrient deficits • Missed diagnosis of CD • Potential for toxicity • Quality of life impairment • Undesired weight gain • Constipation

Clinical Nutrition 35 (2016) 1236–1241

Contents lists available at ScienceDirect

Clinical Nutrition

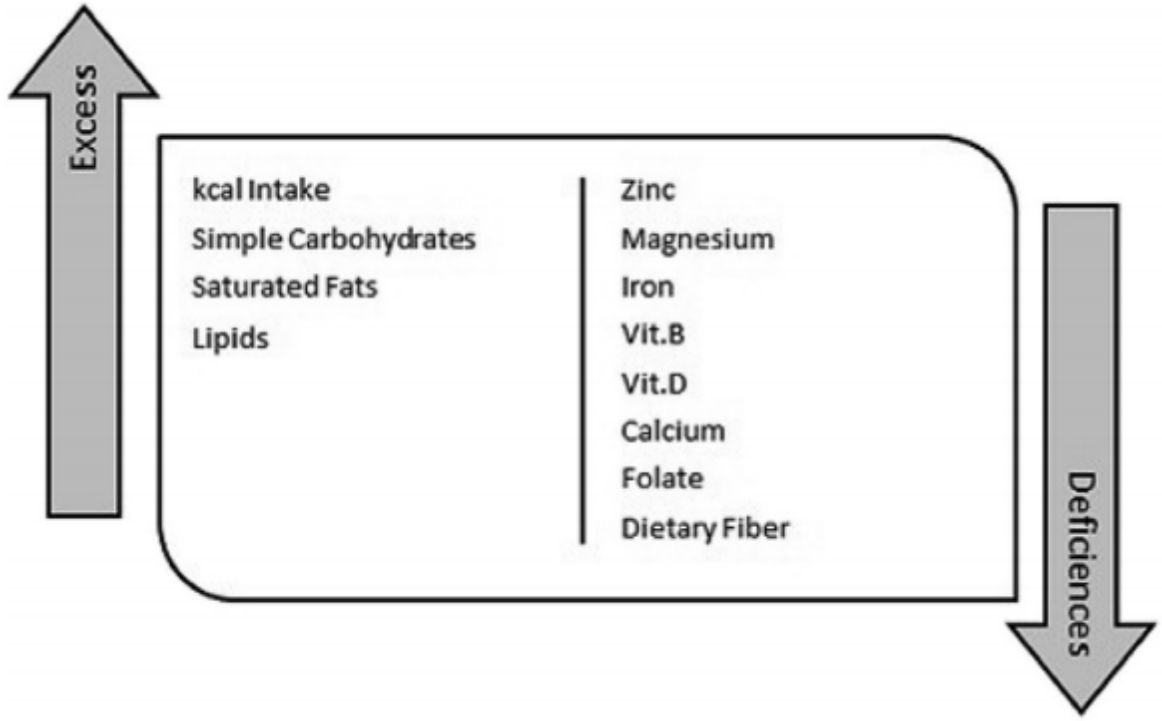
journal homepage: http://www.elsevier.com/locate/clnu

Review

Gluten free diet and nutrient deficiencies: A review

Giorgia Vici [a, b], Luca Belli [b], Massimiliano Biondi [b], Valeria Polzonetti [b, *]

Common nutrition inadequacies in GF-diet.



Detox diets

- Detox diets are marketing myth rather than nutritional reality. They sound like a great concept and it would be fabulous if they really delivered all that they promised! Unfortunately, many of the claims made by detox diet promoters are exaggerated, not based on robust science and any benefit short lived.
- While they may encourage some positive habits like eating more fruit and vegetables, it's best to enjoy a healthy, varied diet and active lifestyle rather than following a detox diet.

© BDA May 2014. Review date May 2016. Version 4.

The blood type diet

- **Premise**

  The foods you eat react chemically with your blood type. If you follow a diet designed for your blood type, your body will digest food more efficiently. You'll lose weight, have more energy, and help prevent disease.

- **Does It Work?**

- **What You Can Eat**

  Type O blood: A high-protein diet heavy on lean meat, poultry, fish, and vegetables, and light on grains, beans, and dairy.

  Type A blood: A meat-free diet based on fruits and vegetables, beans and legumes, and whole grains -- ideally, organic and fresh

  Type B blood: Avoid corn, wheat, buckwheat, lentils, tomatoes, peanuts, and sesame seeds. Chicken is also problematic. Eating green vegetables, eggs, certain meats, and low-fat dairy is encouraged.

  Type AB blood: Foods to focus on include tofu, seafood, dairy, and green vegetables. Avoid caffeine, alcohol, and smoked or cured meats.

- **Cons**

  There haven't been any studies directly comparing weight loss and health in people who were on the diet against those who weren't.

  Only one study has evaluated this kind of diet. It found that people with certain blood types got more of a cholesterol-lowering benefit from eating a low-fat diet.

BDA NEWS

Top 5 worst celeb diets to avoid in 2018

07 December 2017

Raw Vegan diet

Celeb Link: Gwyneth Paltrow, Megan Fox, Sting

What is it? This diet is out there in many versions but the premise is the same – go vegan and eat raw. It has been promoted as a cure for obesity and other disease.

BDA Verdict: A carefully planned vegan diet with the necessary supplements like vitamin B12 and vitamin D can be healthy, but it is not a guarantee of losing weight. A vegan cake is still a cake, vegan syrups are adding sugar and vegan foods often contain the same calories as non-vegan foods.

A food is considered raw if it has not been heated over 40–48°C. It should also not be refined, pasteurized, treated with pesticides or otherwise processed in any way. While some foods are good to have raw, others are more nutritious cooked – like carrots – and some foods cannot be eaten raw at all – like potatoes. The human body can digest and be nourished by both raw and cooked foods so there's no reason to believe raw is inherently better. Raw food can be time consuming to prepare, hard to find when eating out, and is not suitable for certain groups like children or pregnant women so family meals could be a challenge and you could miss hot food.

Bottom line: Raw-ther a challenge. May not damage your health in the short-term but could in the long-term if not balanced.

BDA NEWS

Top 5 worst celeb diets to avoid in 2018

07 December 2017

Alkaline diet

Celeb Link: Tom Brady, Gwyneth Paltrow, Sarah 'Fergie' Duchess of York

What is it? Supporters of this diet believe that changing the foods they eat, consuming more alkaline and less acidic foods, will help change the pH balance of the blood and reduce health risks. Worryingly some wrongly claim it can treat cancer and that incorrectly 'acidic' foods cause osteoporosis.

Our Verdict: Unfortunately, this diet is based on a basic misunderstanding of human physiology. While encouraging people to eat more fresh veggies is a good thing, the pH of your food will not have an impact on the pH of your blood – and you wouldn't want it to! Your body is perfectly capable of keeping its blood within a very specific pH range (between 7.35 and 7.45). If it fails to do so you would become very ill very quickly and die if not treated! Diet can change the pH value of urine, but testing the pH of your urine just measures the pH of your urine and is not related to the pH of your blood, which cannot be affected by diet.

Bottom Line: It's alka-lie! You'll most likely lose weight as you are cutting out processed foods and eating more healthily – nothing to do with acid or alkali nonsense.

BDA NEWS

Top 5 worst celeb diets to avoid in 2018

07 December 2017

Ketogenic diet

Celeb Link: A plethora of celebs have been linked with this diet including: Kim Kardashian, Kobe Bryant, LeBron James, Halle Berry, Gwyneth Paltrow, Mick Jagger, Rihanna, Alec Baldwin, Matthew McConaughey, Tom Jones.

What is it? This diet, is out there in many versions rather like Atkins or Paleo but the premise is the same: very low carb (around 20-50g per day or 5% total calories), relatively high in fat, moderate protein. Typically it excludes grains, dairy, legumes, soy, most fruits and starchy vegetables. The carbohydrates in the diet come mainly from non-starchy vegetables, nuts and seeds.

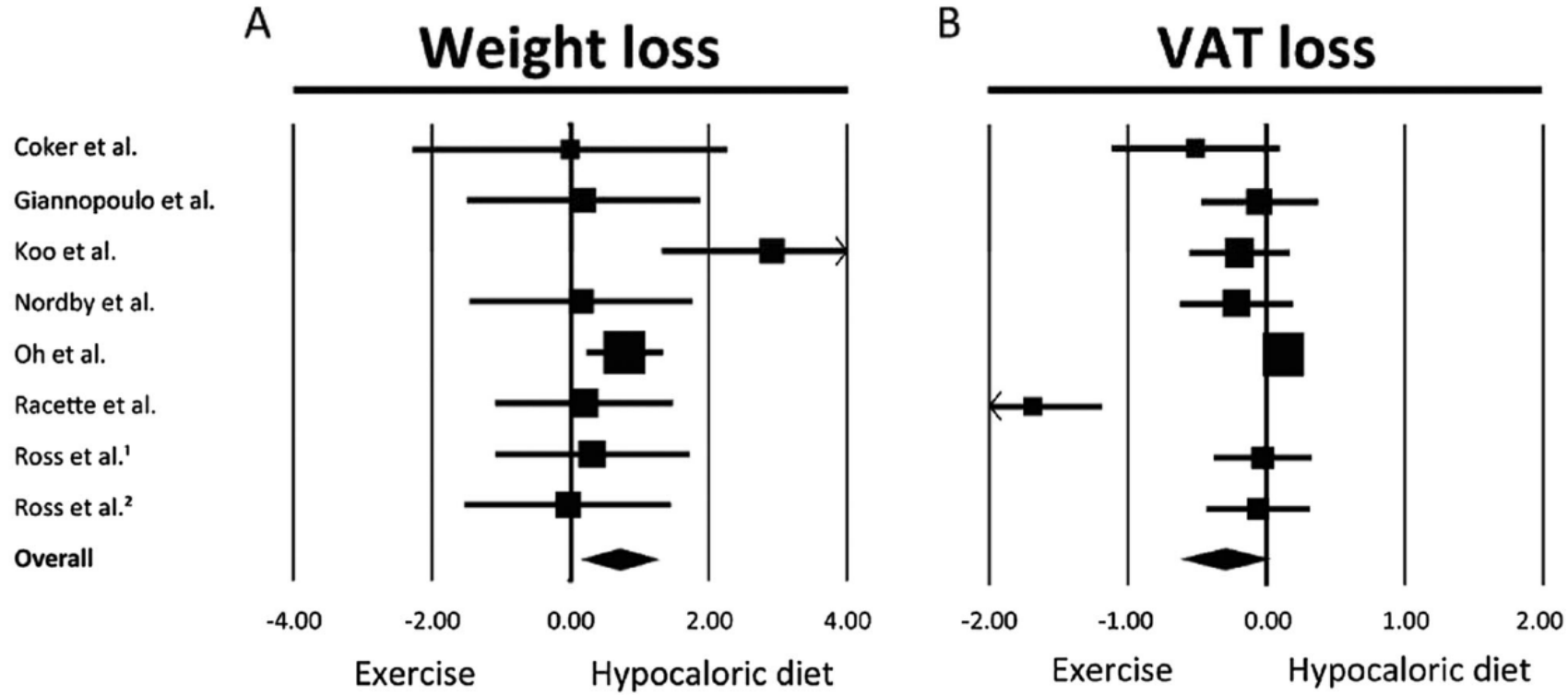
If you significantly decrease the amount of carbohydrate in your diet, the body switches from primarily burning carbohydrates, to burning fat, for energy. This causes an increase in levels of ketones in our bodies. Supporters claim it can help you to lose weight, control hunger and improve your health. Worryingly some say it can treat or prevent a number of different types of cancer which is just not true.

BDA Verdict: A carefully dietitian-planned ketogenic diet can be a very effective treatment for people with epilepsy. For weight loss, there's no magic, the diet works like any other by cutting total calories and removing foods people tend to overeat. Initial side effects may include low energy levels, brain fog, increased hunger, sleep problems, nausea, digestive discomfort, bad breath and poor exercise performance. It can be an effective method of weight loss in the short term with careful planning but it is hard to sustain for many in the long term and most of the initial weight loss seen is often associated with water/fluid losses. It is never a good idea to 'over-restrict' any one food group (including carbohydrate), as this can mean it is more difficult to achieve a balanced diet overall with respect to vitamins, minerals and fibre in particular. If consuming high fat then the type of fat needs to be considered.

Bottom line: May suit some but ketone-ly with careful planning for balance, heart and gut health.

A systematic review and meta-analysis on the effects of exercise training versus hypocaloric diet: distinct effects on body weight and visceral adipose tissue

R. J. H. M. Verheggen,[1] M. F. H. Maessen,[1] D. J. Green,[2,3] A. R. M. M. Hermus,[4] M. T. E. Hopman[1] and D. H. T. Thijssen[1,2]



obesity reviews (2016)

Position of the Academy of Nutrition and Dietetic Overwe

ABSTRACT

It is the position of overweight and ob haviors contributing influenced by many of the socioecologic more successful tha dietitian nutritionis in weight managem epidemic. Using the Evidence Analysis L mendations for the personal influenc pharmacotherapy, a tensity of treatment strengthen existing ronments that supp

J Acad Nutr Diet. 2016;1

POSITION STATEMENT

It is the position of the Academy of Nutrition and Dietetics that successful treatment of overweight and obesity in adults requires adoption and maintenance of lifestyle behaviors contributing to both dietary intake and physical activity. These behaviors are influenced by many factors; therefore, interventions incorporating more than one level of the socioecological model and addressing several key factors in each level may be more successful than interventions targeting any one level and factor alone.

Academy of Nutrition
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BDA The Association of UK Dietitians

Food Fact Sheet

Fad diets

Summary

Fad-diets can be tempting as they offer a quick-fix to a long-term problem. However, they can risk your health and you should only follow advice from a doctor or dietitian. The best way to lose weight and keep it off is to make healthier choices, eat a nutritionally balanced and varied diet with appropriately sized portions, and be physically active.