



ISTITUTO DI MEDICINA DELLO SPORT DI FIRENZE

**Prevenzione**

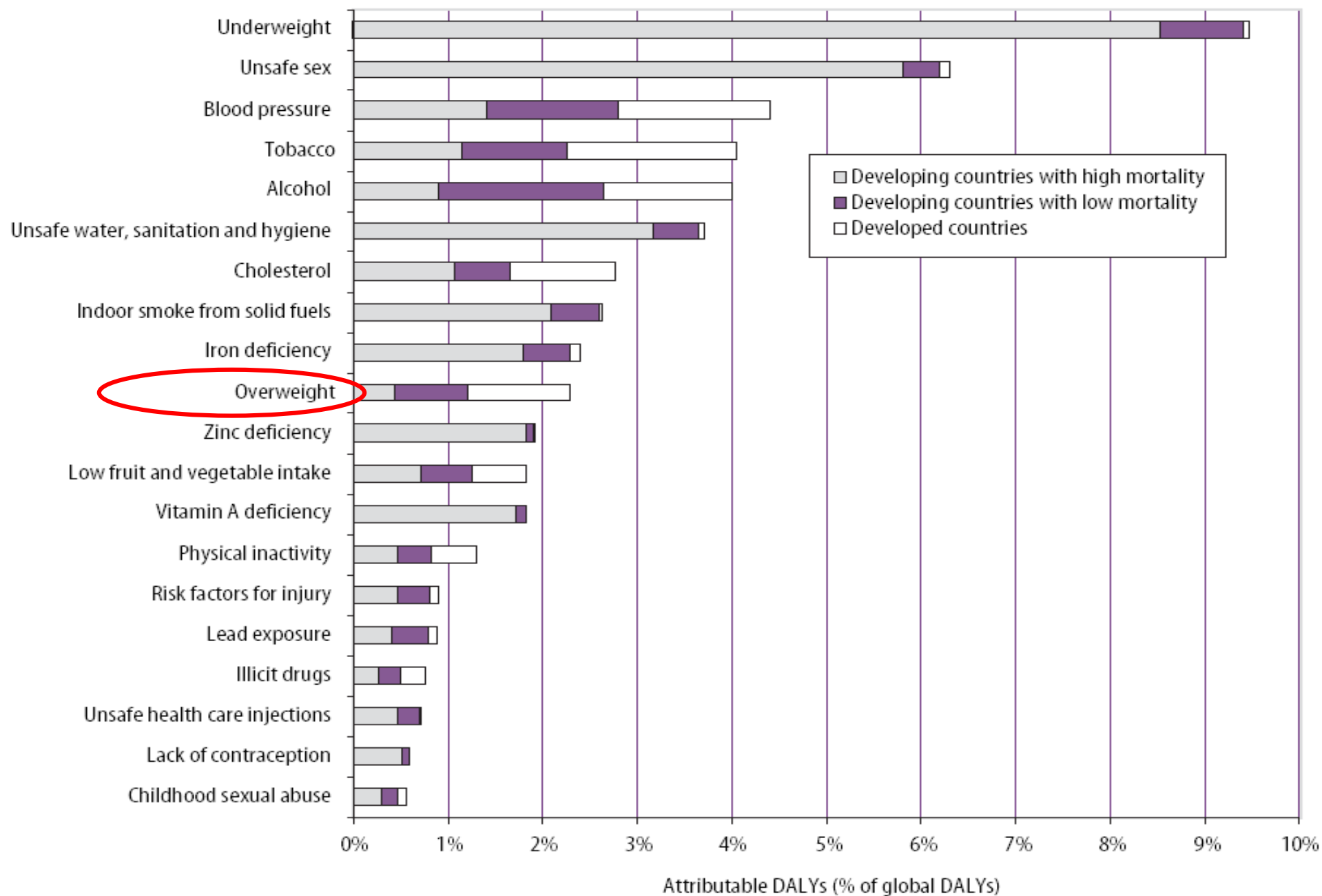
***“in movimento”***

# Dieta e esercizio fisico nell'obesità'

**Francesco SOFI**

SOD Agenzia Nutrizione, Università' degli Studi di Firenze,  
Azienda Ospedaliero-Universitaria Careggi

Figure 4.9 Global distribution of burden of disease attributable to 20 leading selected risk factors

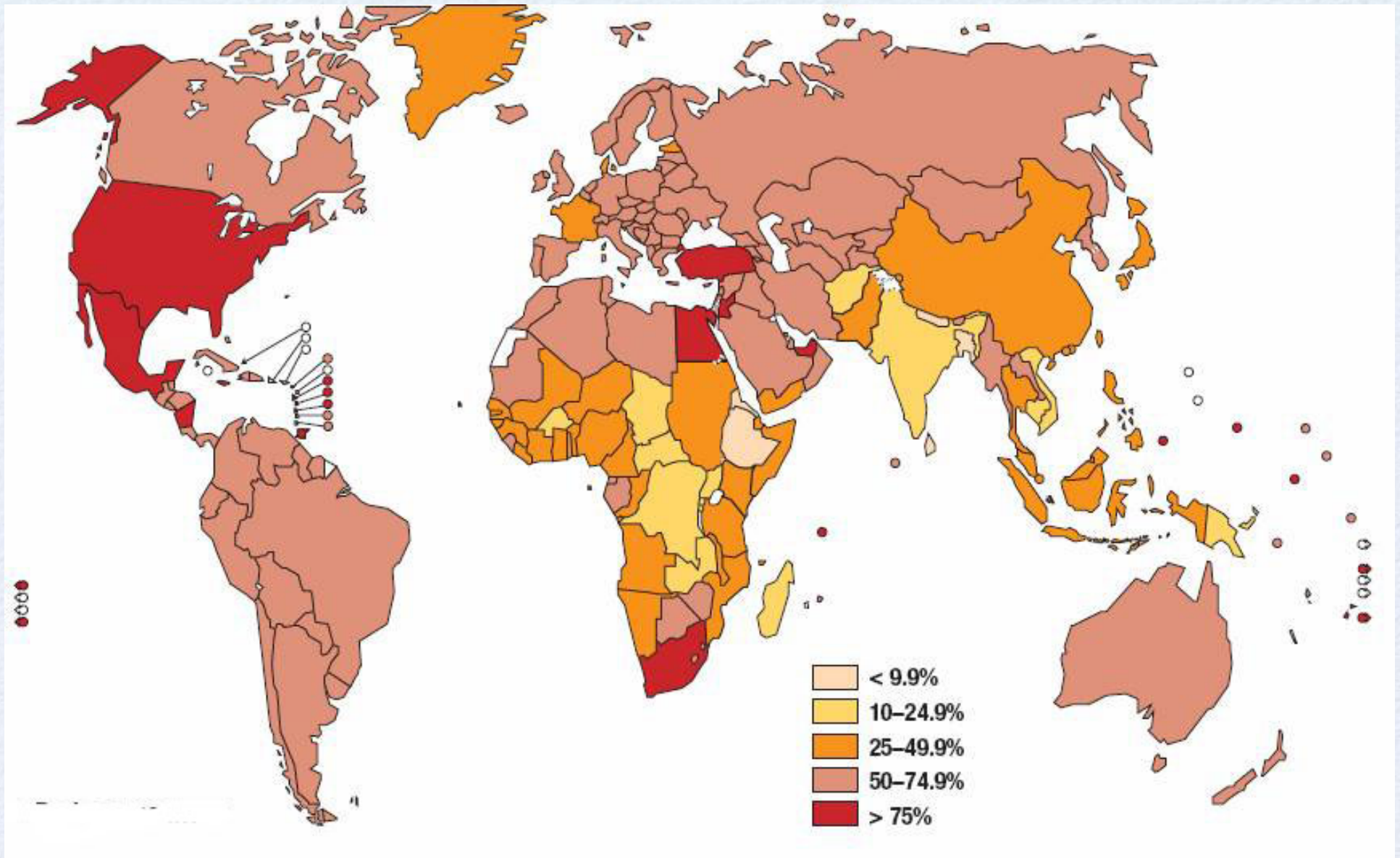


# Risk factors

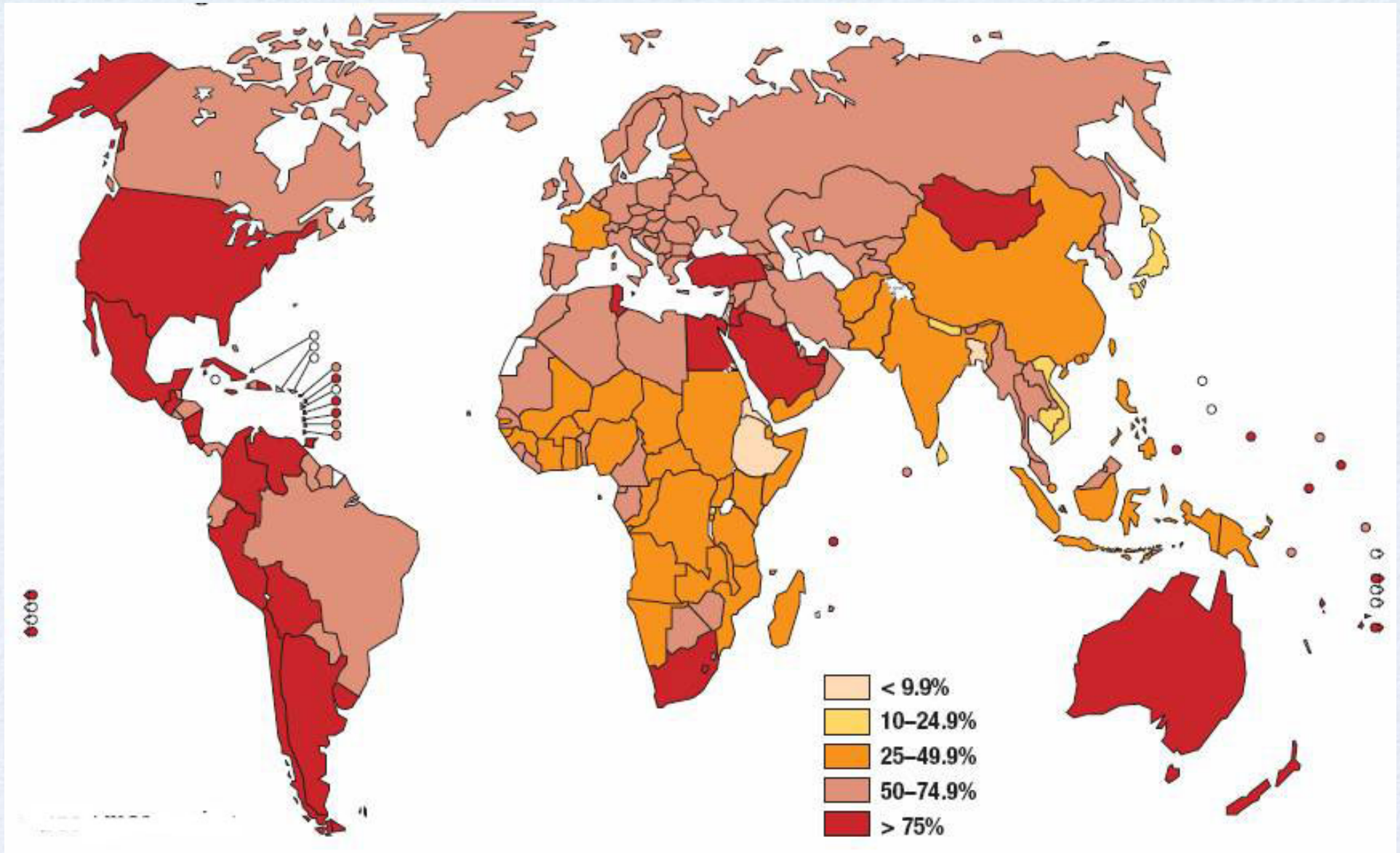
Table 4.11 Ranking of estimated attributable and avoidable burdens of 10 leading selected risk factors

Rank	Estimated attributable burden				Estimated avoidable burden after 25% distributional transition from 2001					
	in 2000				in 2010				in 2020	
	DALYs (millions)	% total			DALYs (millions)	% total	DALYs (millions)	% total	DALYs (millions)	% total
1	Underweight	138	9.5	Unsafe sex	42	3.0	Unsafe sex	71	4.8	
2	Unsafe sex	92	6.3	Blood pressure	25	1.7	Blood pressure	27	1.9	
3	Blood pressure	64	4.4	Underweight	23	1.6	Tobacco	22	1.5	
4	Tobacco	59	4.1	Tobacco	17	1.2	Cholesterol	17	1.2	
5	Alcohol	58	4.0	Cholesterol	15	1.1	Underweight	16	1.1	
6	Unsafe water, sanitation and hygiene	54	3.7	Alcohol	15	1.1	Alcohol	16	1.1	
7	Cholesterol	40	2.8	Overweight	13	0.9	Overweight	15	1.0	
8	Indoor smoke from solid fuels	39	2.6	Iron deficiency	9	0.6	Low fruit and vegetable intake	9	0.6	
9	Iron deficiency	35	2.4	Low fruit and vegetable intake	9	0.6	Iron deficiency	7	0.5	
10	Overweight	33	2.3	Unsafe water, sanitation and hygiene	8	0.6	Physical inactivity	6	0.4	
<b>Total DALYs</b>		<b>1 455</b>		<b>1 417</b>		<b>1 459</b>				

# Prevalence of overweight (BMI > 25 kg/m<sup>2</sup>) (year: 2005)

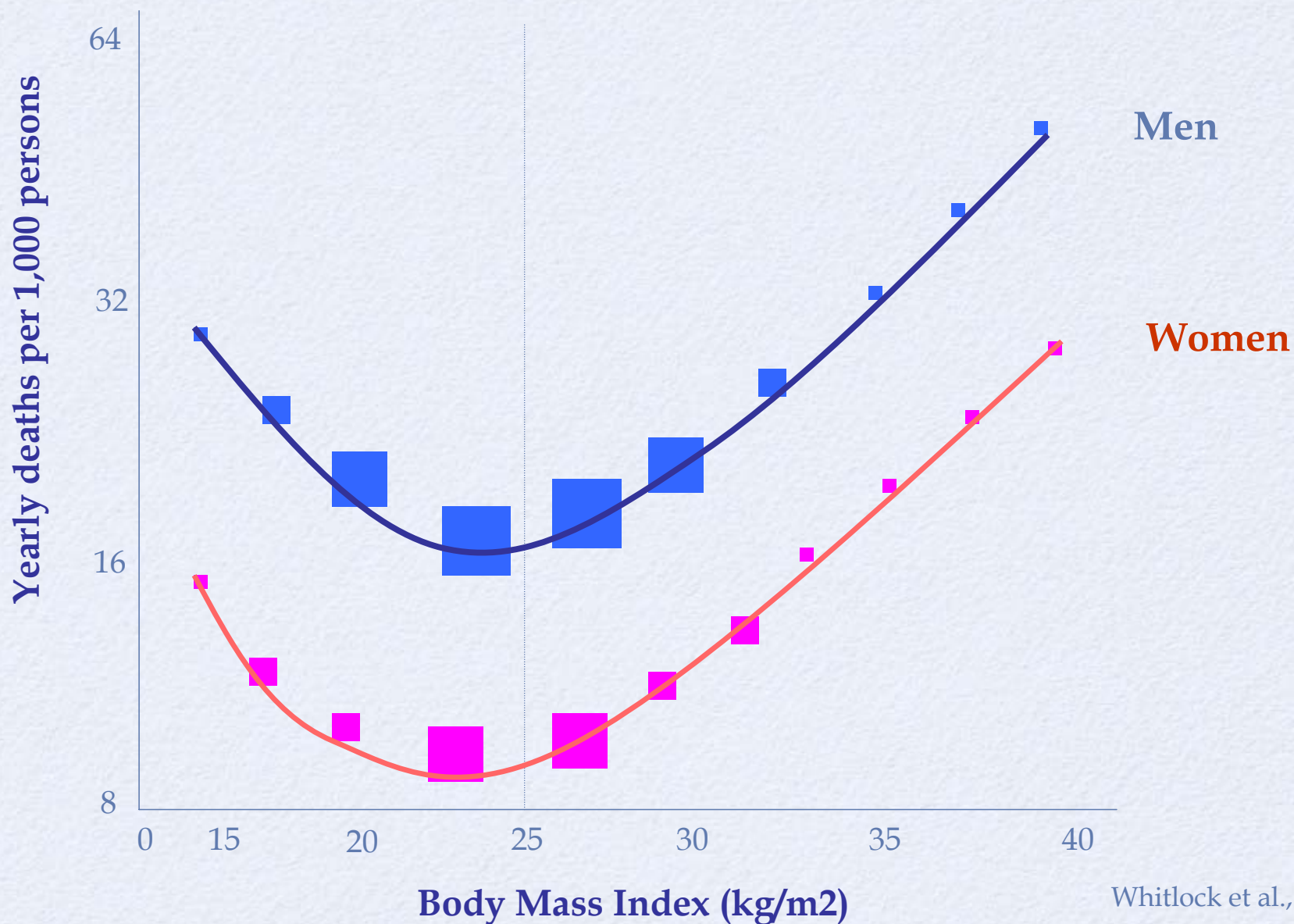


# Prevalence of overweight (BMI > 25 kg/m<sup>2</sup>) (year: 2015)

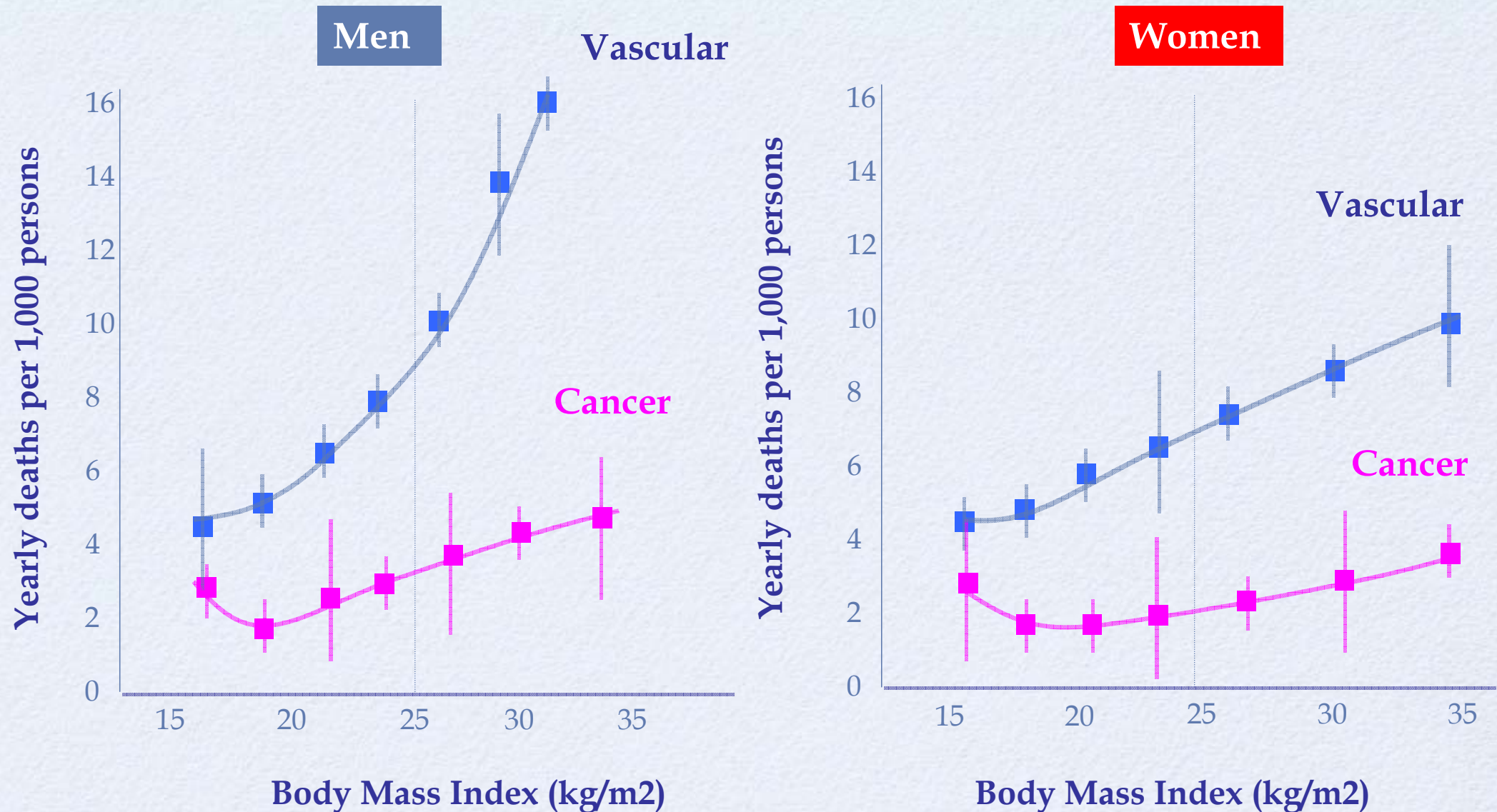


# All-cause mortality versus BMI in 900,000 adults

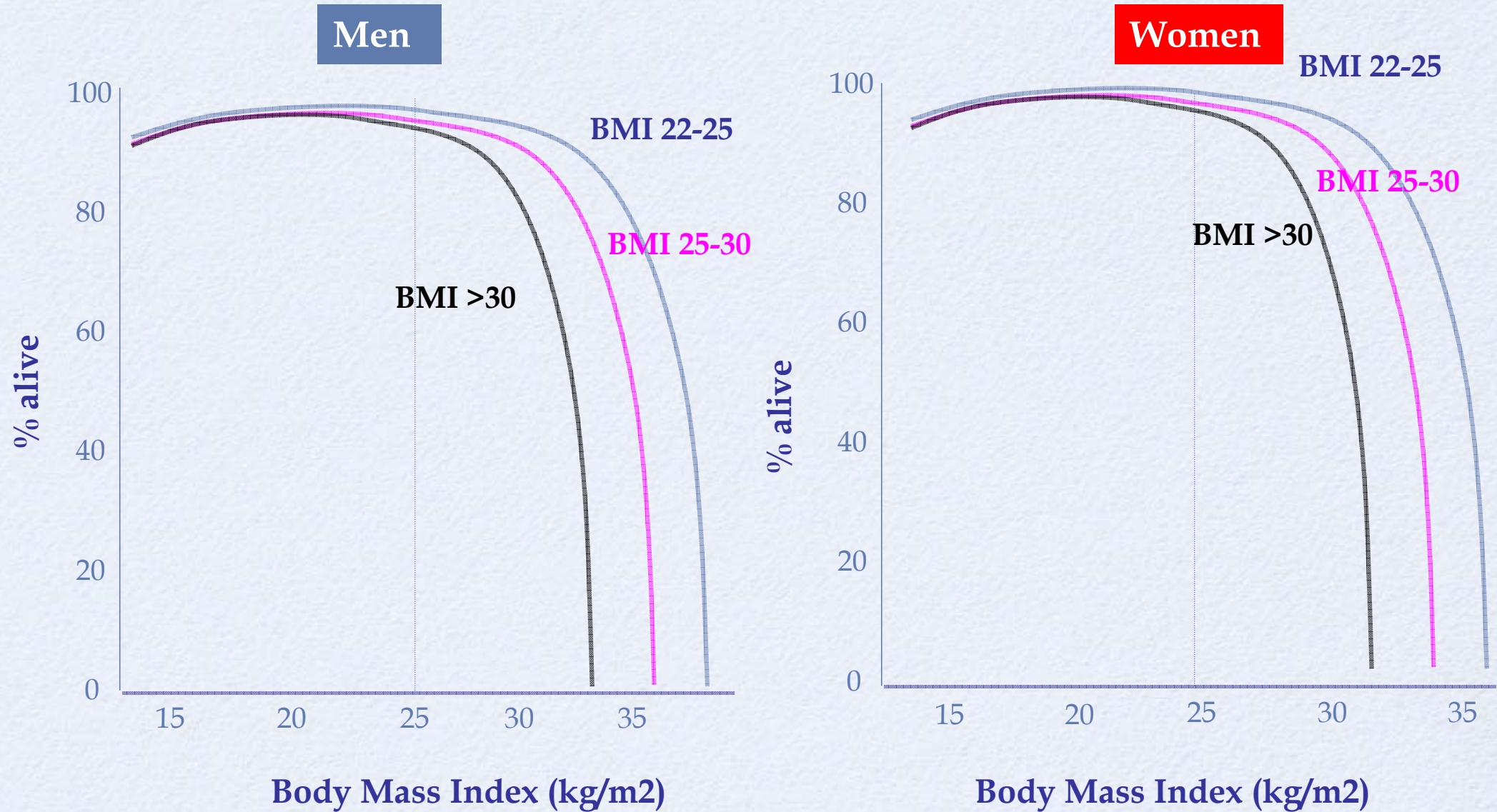
**Collaborative analysis of 57 prospective studies**



# Mortality rates versus BMI in 900,000 adults

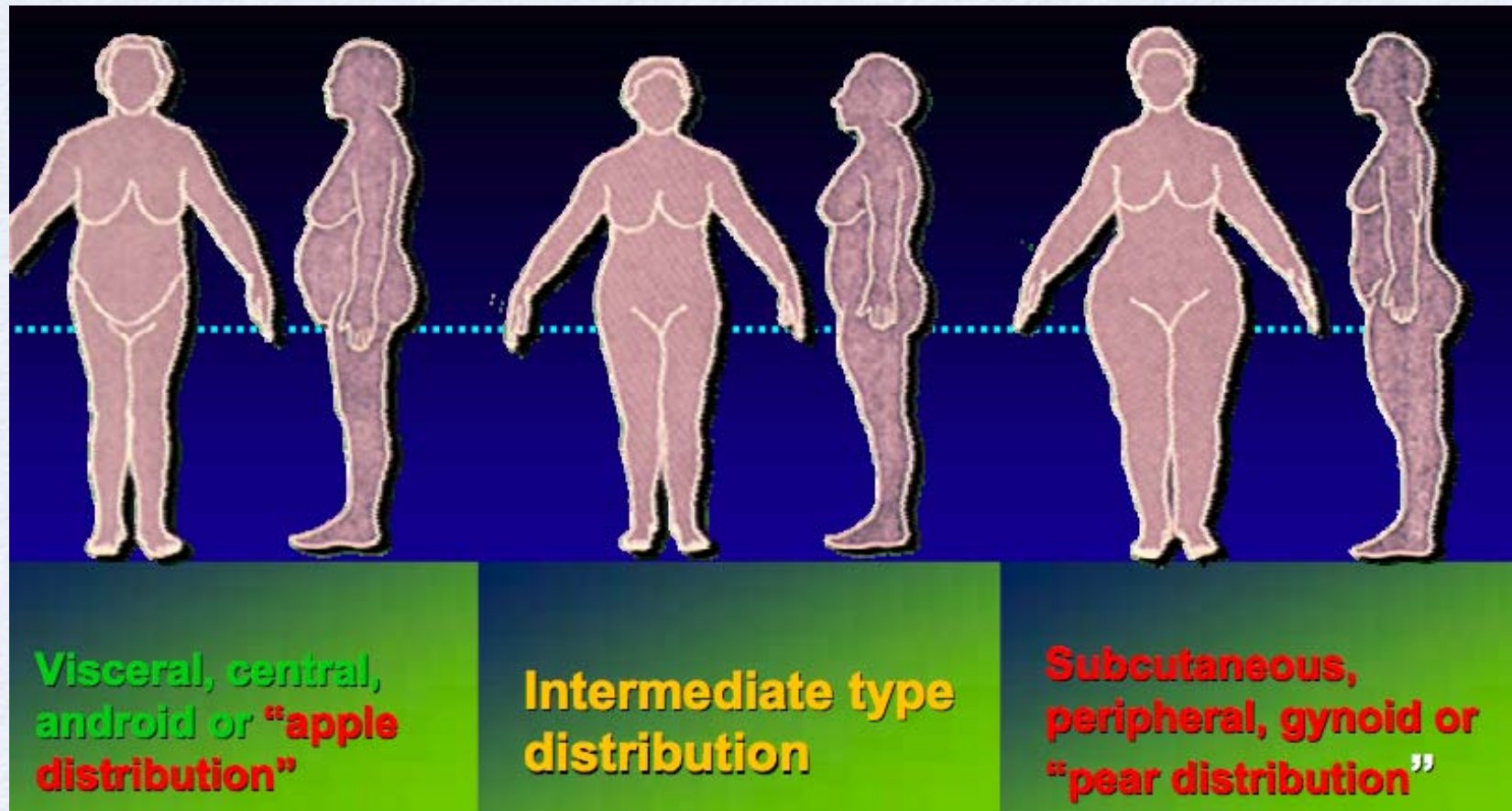


# Life span versus BMI in 900,000 adults





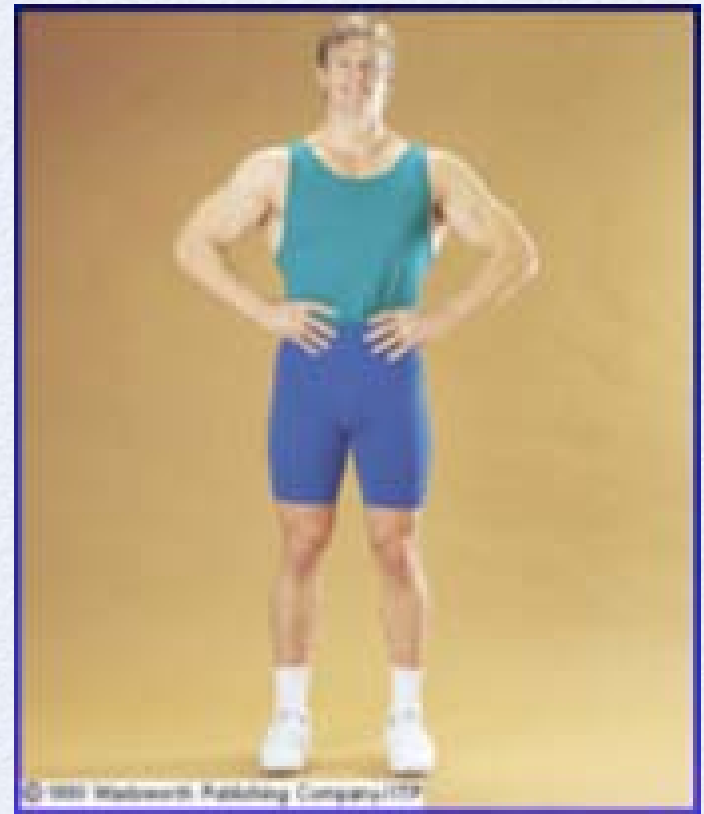
# Obesity



Three obese womens with aproximately the same BMI but with different distribution of adipose tissue

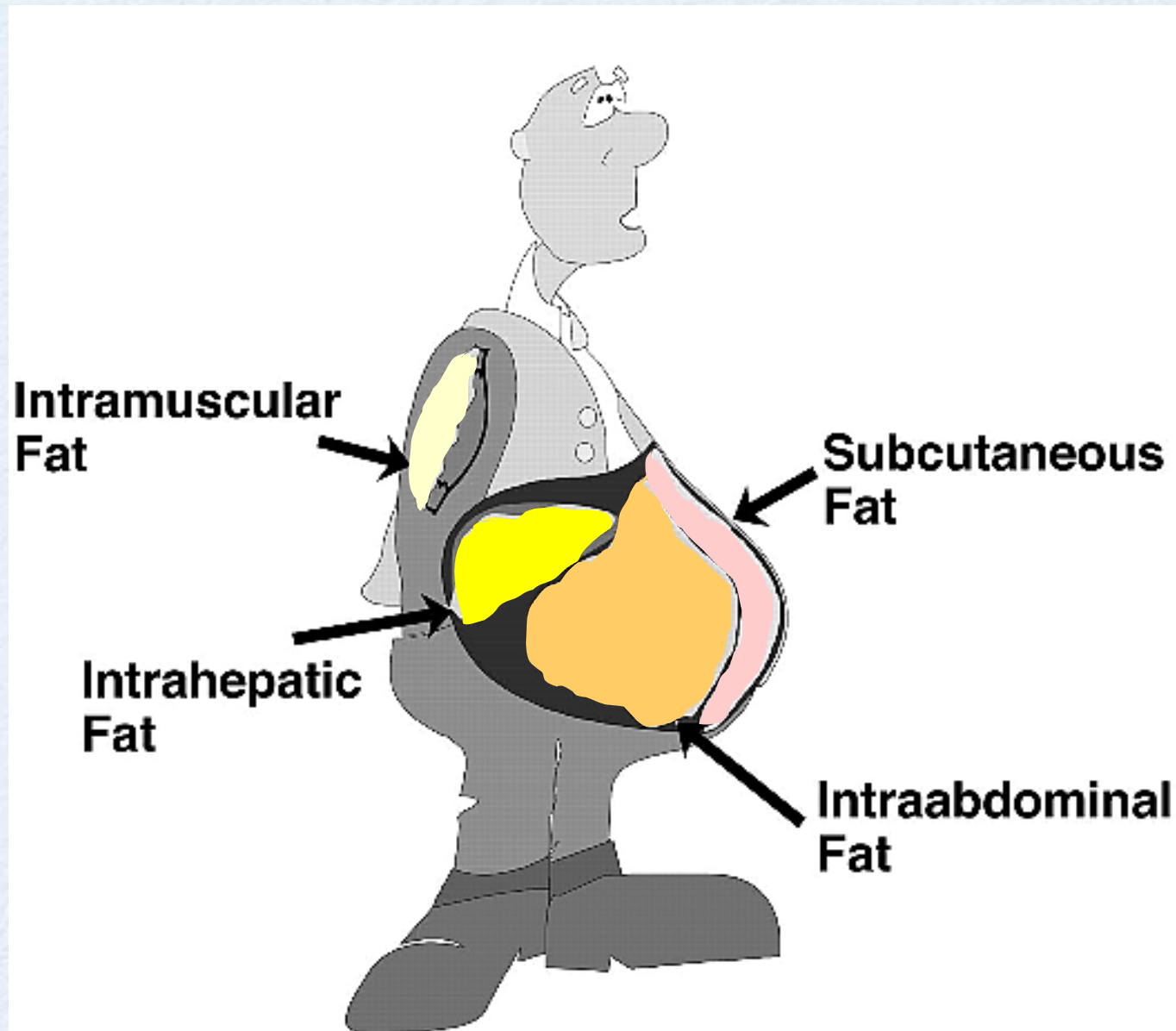
# BMI

## Limitations of BMI



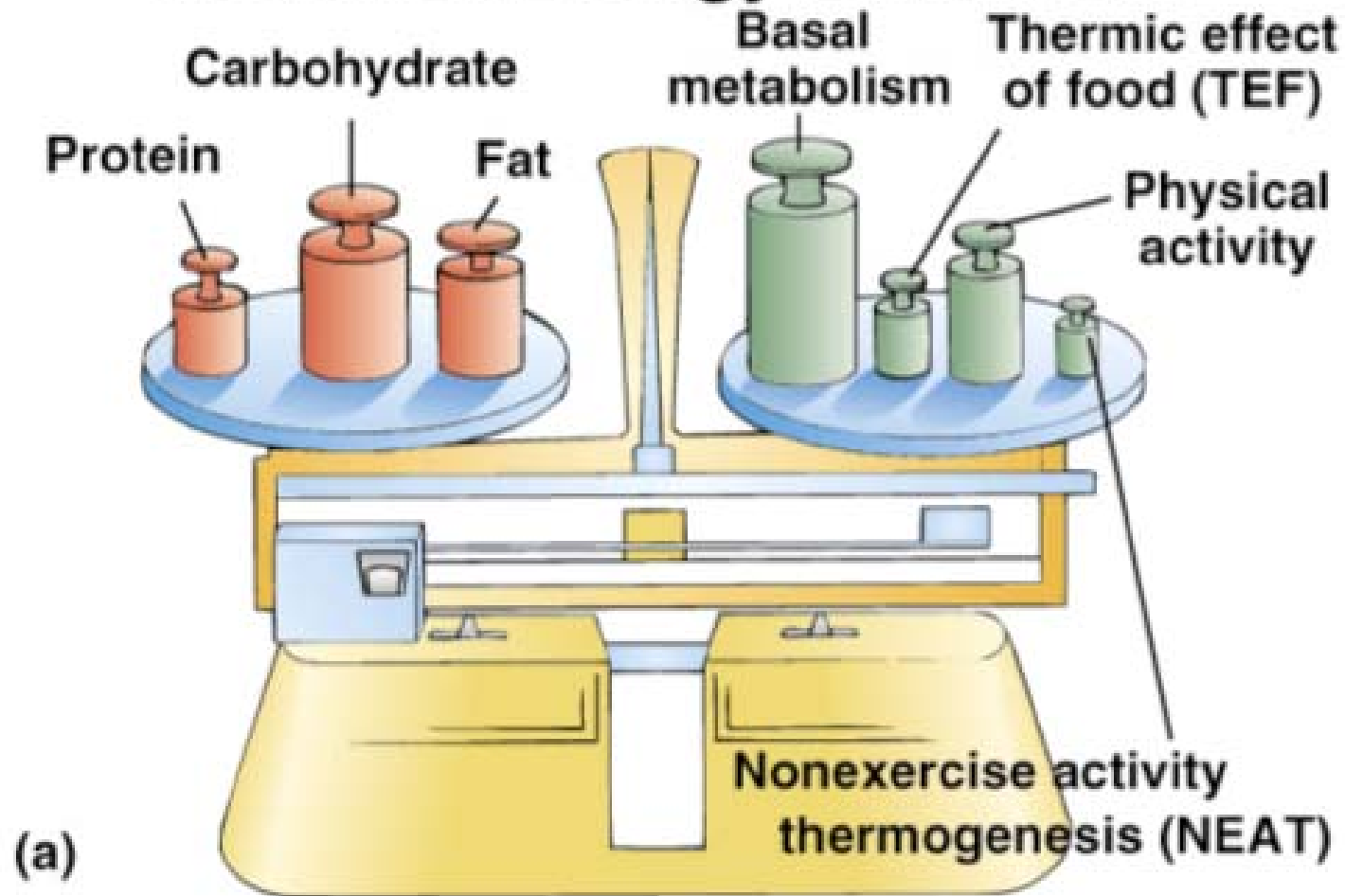
They both have a BMI of 31

# Abdominal obesity



# Dispendio energetico

## Model for Energy Balance A



**Qual è il modello  
di alimentazione  
ideale???**

# Diets

- Atkins Diet
- Best Life Diet
- Biggest Loser Diet
- Body for Life
- Cabbage Soup Diet
- Cheater's Diet
- Cookie Diet
- Dr. Phil's Ultimate Weight Solution
- Eat Right for Your Type
- Eat This, Not That
- Fast Food Diet
- Fat Smash Diet
- Flat Belly Diet
- 5 Factor Diet
- Flavor Point Diet
- French Women Don't Get Fat
- Glycemic Index Diet
- Grapefruit Diet
- Hallelujah Diet
- Jenny Craig
- LA Weight Loss
- Living Low-Carb
- Macrobiotic Diet
- Martha's Vineyard Diet Detox
- Medifast Diet Plan
- Morning Banana Diet
- New Beverly Hills Diet
- NutriSystem Diet
- Ornish Diet
- Perricone Diet
- Personality Type Diet
- Pritikin Principle
- Protein Power
- Raw Foods Diet
- Rice Diet Solution
- Shangri-La Diet
- Slim-Fast Plan
- Sonoma Diet
- South Beach Diet
- South Beach Diet Supercharged
- The Spectrum
- Step Diet
- Sugar Busters
- Thin for Life
- 3 Day Diet
- 3-Hour Diet
- UltraMetabolism Diet
- Volumetrics
- WebMD Weight Loss Clinic
- Weight Loss Cure
- Weight Watchers
- Dr. Andrew Weil
- You - On a Diet
- The Zone

# *The* NEW ENGLAND JOURNAL *of* MEDICINE

ESTABLISHED IN 1812

FEBRUARY 26, 2009

VOL. 360 NO. 9

## Comparison of Weight-Loss Diets with Different Compositions of Fat, Protein, and Carbohydrates

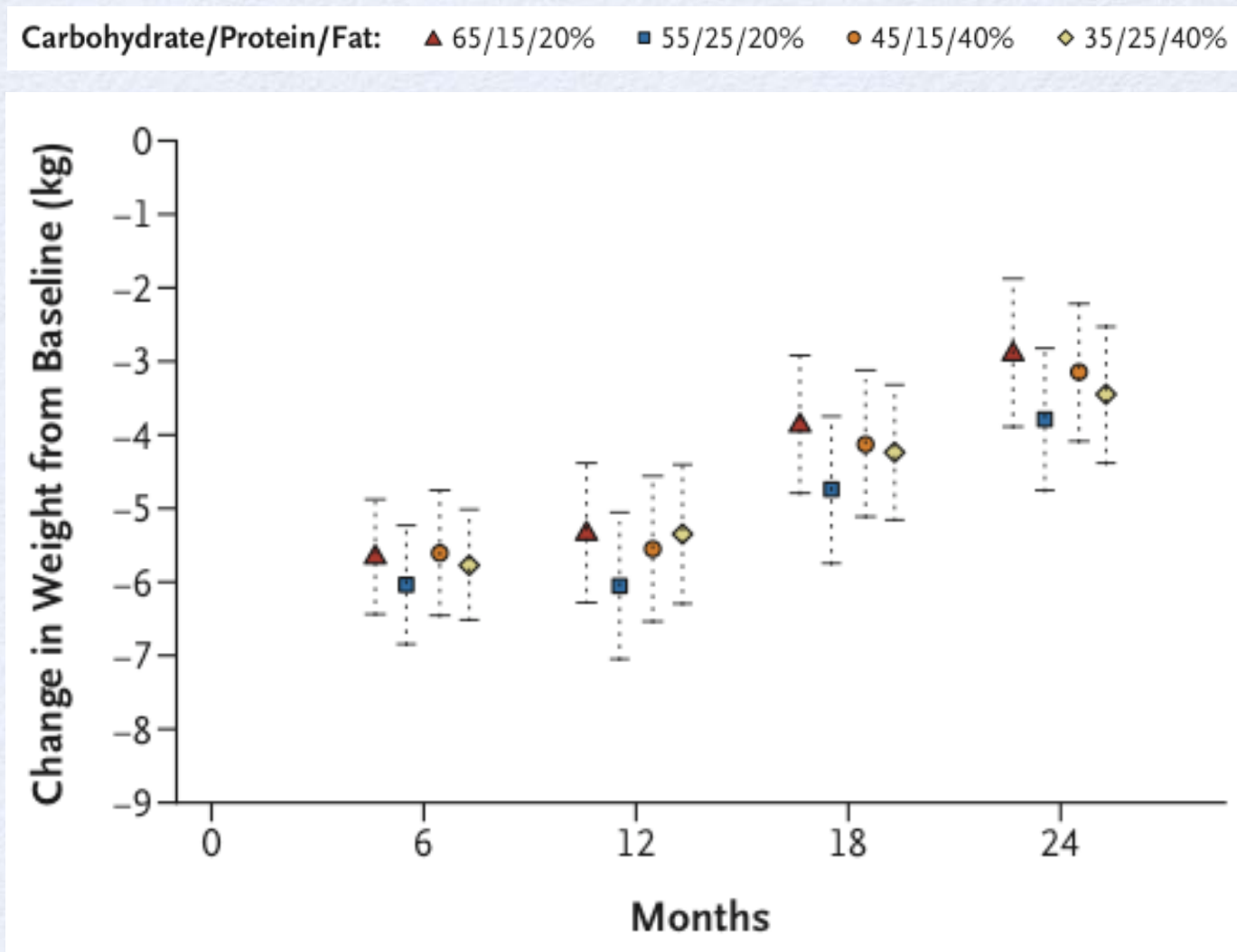
Frank M. Sacks, M.D., George A. Bray, M.D., Vincent J. Carey, Ph.D., Steven R. Smith, M.D., Donna H. Ryan, M.D., Stephen D. Anton, Ph.D., Katherine McManus, M.S., R.D., Catherine M. Champagne, Ph.D., Louise M. Bishop, M.S., R.D., Nancy Laranjo, B.A., Meryl S. Leboff, M.D., Jennifer C. Rood, Ph.D., Lilian de Jonge, Ph.D., Frank L. Greenway, M.D., Catherine M. Loria, Ph.D., Eva Obarzanek, Ph.D., and Donald A. Williamson, Ph.D.

**811 overweight adults**

**Four diets with different percentages of energy derived  
from fat, protein and carbohydrates**

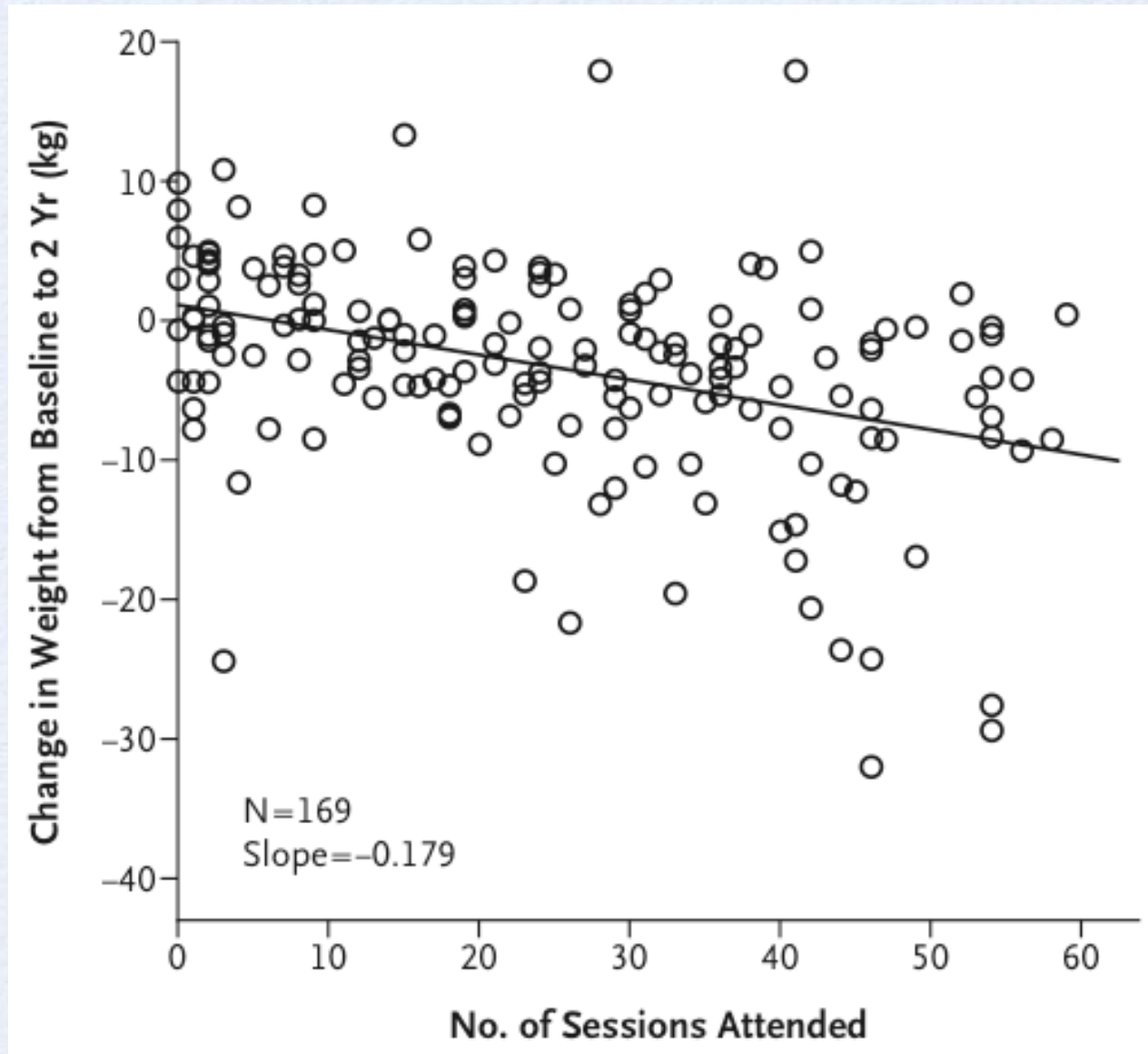
**Follow-up: 2 years**

# Comparison of weight-loss diets





# Comparison of weight-loss diets



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JULY 17, 2008

VOL. 359 NO. 3

## Weight Loss with a Low-Carbohydrate, Mediterranean, or Low-Fat Diet

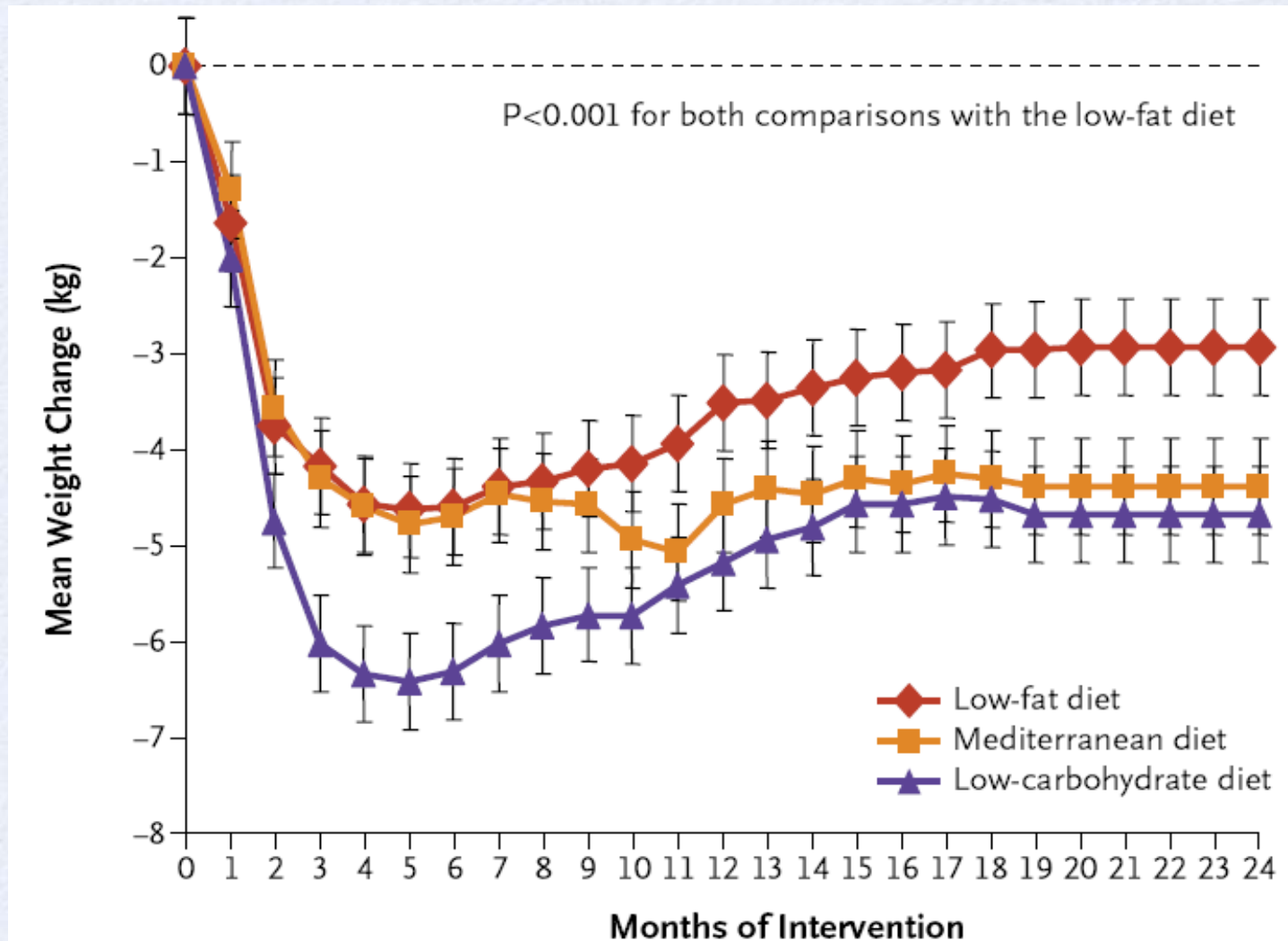
Iris Shai, R.D., Ph.D., Dan Schwarzfuchs, M.D., Yaakov Henkin, M.D., Danit R. Shahar, R.D., Ph.D., Shula Witkow, R.D., M.P.H., Ilana Greenberg, R.D., M.P.H., Rachel Golan, R.D., M.P.H., Drora Fraser, Ph.D., Arkady Bolotin, Ph.D., Hilel Vardi, M.Sc., Osnat Tangi-Rozental, B.A., Rachel Zuk-Ramot, R.N., Benjamin Sarusi, M.Sc., Dov Brickner, M.D., Ziva Schwartz, M.D., Einat Sheiner, M.D., Rachel Marko, M.Sc., Esther Katorza, M.Sc., Joachim Thiery, M.D., Georg Martin Fiedler, M.D., Matthias Blüher, M.D., Michael Stumvoll, M.D., and Meir J. Stampfer, M.D., Dr.P.H.,  
for the Dietary Intervention Randomized Controlled Trial (DIRECT) Group

**2-years trial: 233 moderately obese subject**

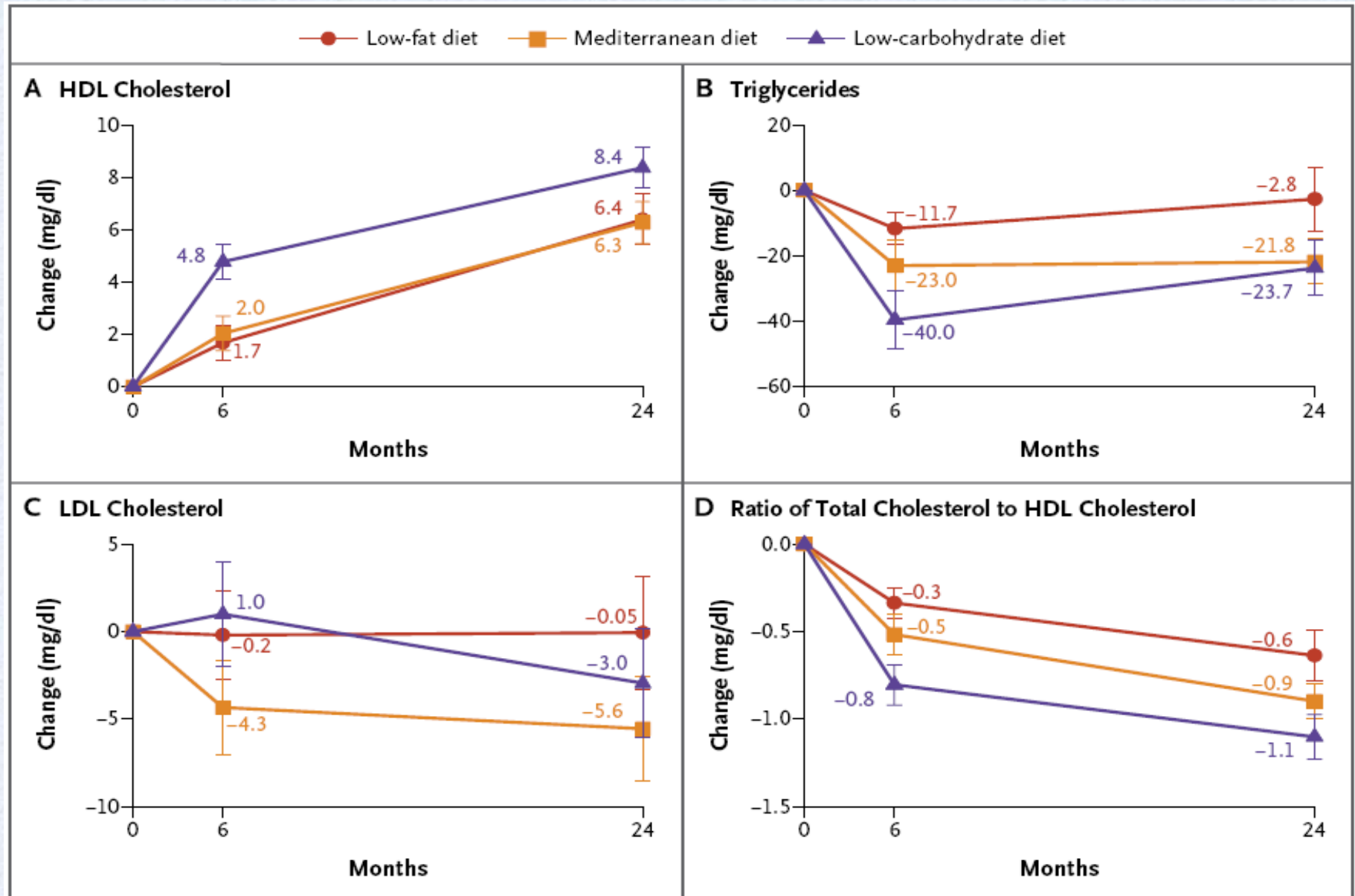
**Three diets: low-carb, low-fat, Mediterranean**

# Weight loss with different diets

## Weight changes during 2 years according to diet

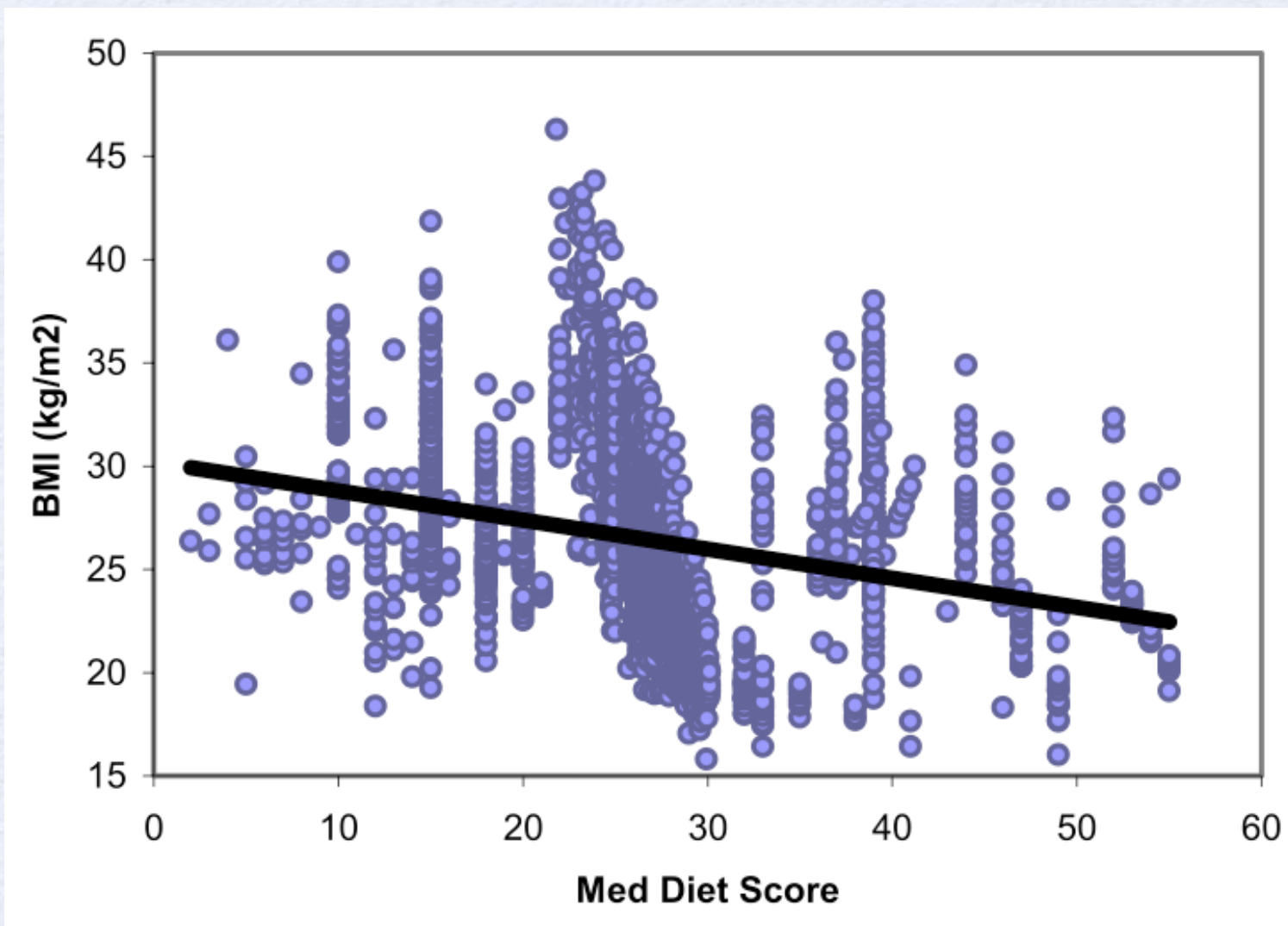


# Weight loss with different diets



# Mediterranean diet and BMI

1514 men and 1528 women, 18-89 years old



## Adherence to Mediterranean diet and health status: meta-analysis

Francesco Sofi, researcher in clinical nutrition,<sup>1,2,5</sup> Francesca Cesari, researcher,<sup>1</sup> Rosanna Abbate, full professor of internal medicine,<sup>1,5</sup> Gian Franco Gensini, full professor of internal medicine,<sup>3</sup> Alessandro Casini, associate professor of clinical nutrition<sup>2,4,5</sup>

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**The New York Times**  
Monday, October 6, 2008

**Health**

WORLD | U.S. | N.Y. / REGION | BUSINESS | TECHNOLOGY | SCIENCE | HEALTH | SPORTS | OPINION


RESEARCH | FITNESS & NUTRITION | MONEY & POLICY | VIEW

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**Consults**  
Experts on the Front Lines of Medicine

October 3, 2008, 11:33 AM

**What's the Healthiest Diet of All?**  
By PETER LIBBY, M.D.



Diners at an outdoor cafe in Corsica, France. (Ed Alcock for The New York Times)

What exactly do doctors mean by a "healthy diet"?

Many of us consider the Mediterranean diet to be the closest thing known to an ideal meal plan, rich in vegetables, fruits, legumes, cereals, fish, olive oil and, yes, a bit of red wine with meals. Compared to traditional American menu — high in red meat and in butter and other dairy products — the Mediterranean diet is lower in saturated fat, more varied and often more satisfying.

**CORRIERE DELLA SERA.it** Salute/Nutrizione

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SPORTELLO CANCRO | REUMATOLOGIA | **NUTRIZIONE** new

Corriere della Sera : Salute : Nutrizione : *La dieta mediterranea salva la vita*

MA GLI ITALIANI NON LA FANNO PIÙ

### La dieta mediterranea salva la vita

*Uno studio dimostra che seguendola si abbate del 10% la mortalità per ogni causa*



**Frutta, verdura, pasta, olio, pesce, sono i cardini della dieta mediterranea (Ansa)**

Seguire «davvero» la dieta mediterranea garantisce una significativa protezione nei confronti della mortalità per qualunque causa e dell'incidenza delle principali patologie cronico-degenerative come quelle del cuore e dei vasi, i tumori, il morbo di Parkinson e quello di Alzheimer. A ribadirlo con argomentazioni scientifiche ancora più solide che in passato è una metanalisi, cioè una revisione di dati a disposizione da studi precedenti, condotta da specialisti dell'Università di Firenze e dell'Azienda Ospedaliero-Universitaria Careggi, pubblicata sul prestigioso British Medical Journal.

**NOTIZIE CORRELATE**

- Il canale nutrizione di Corriere.it
- Nutrizione: l'esperto risponde
- Tutti i video sulla nutrizione



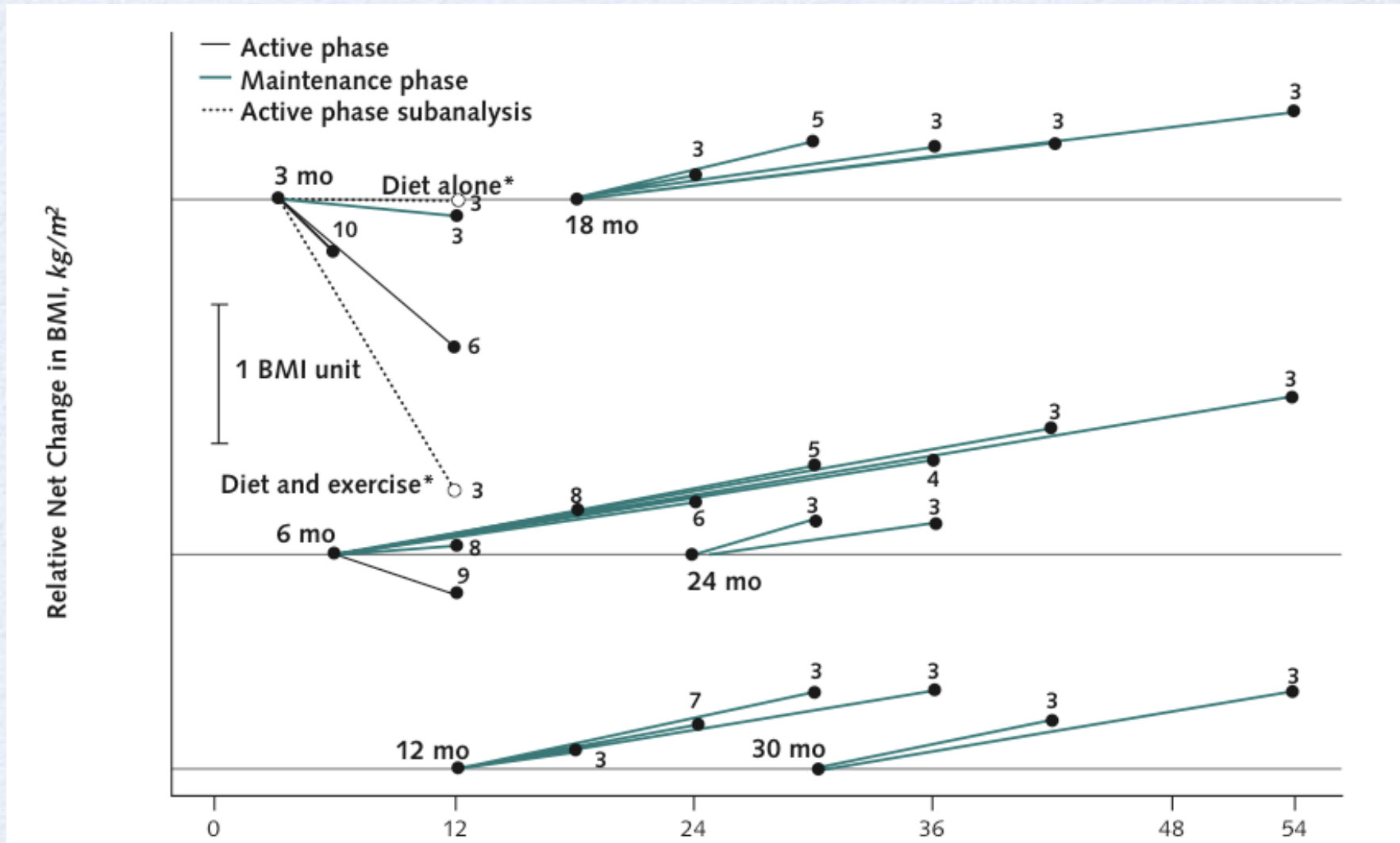
**Danacol riduce il colesterolo in 3 settimane.**

Insieme ad uno stile attivo e ad una dieta equilibrata ricca di frutta e verdura.

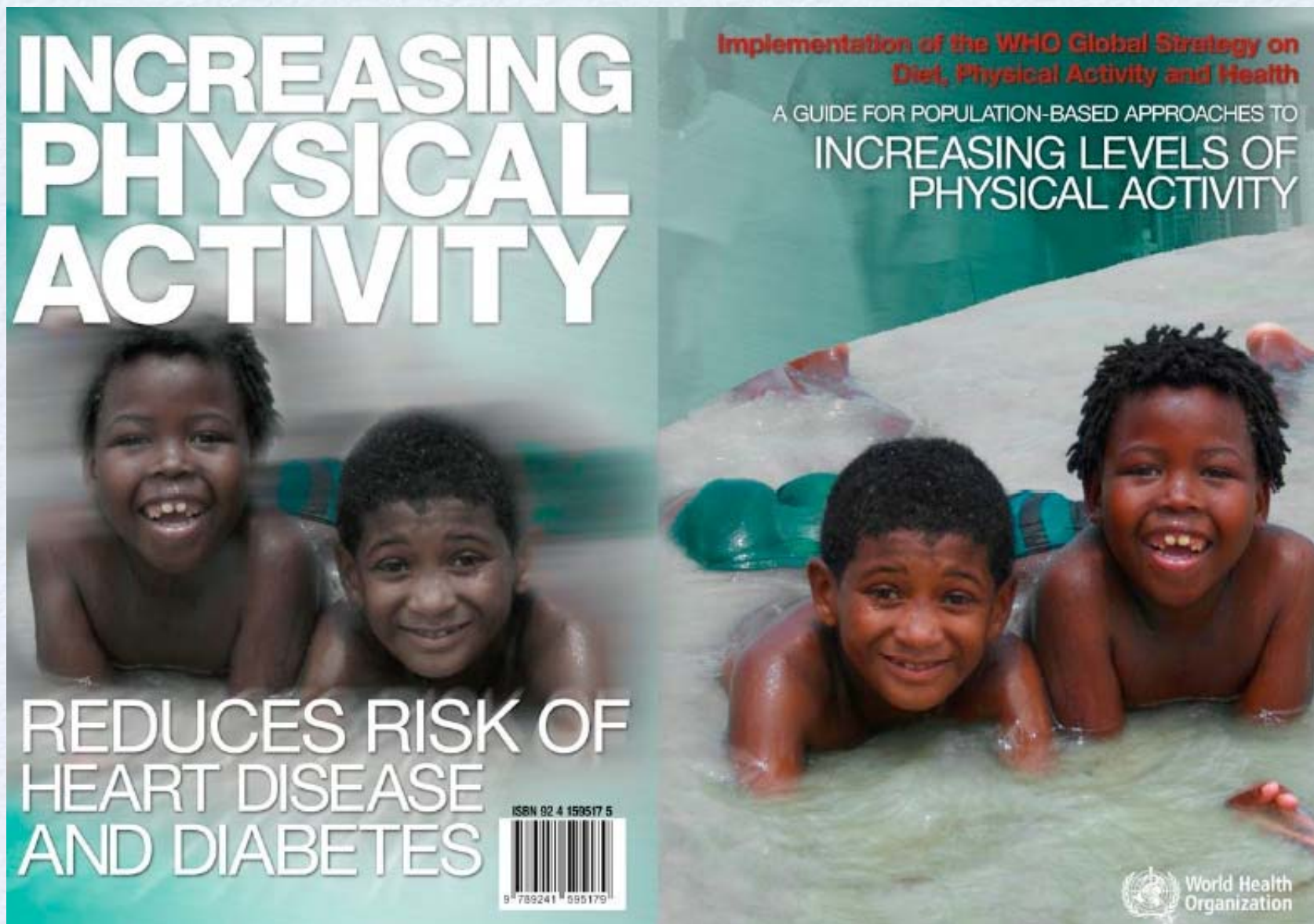
**LO STUDIO** - Le ricerche prese in considerazione dai ricercatori toscani hanno «sezionato» le abitudini alimentari e lo stato di salute di più di 1,5 milioni di persone seguite dai 3 ai 18 anni. Tutti gli studi esaminati utilizzavano un punteggio numerico, chiamato *punteggio di aderenza*, per calcolare quanto fedelmente veniva seguita la dieta Mediterranea. Dall'analisi di questi dati è emerso che coloro che aderivano in maniera rigorosa alla dieta Mediterranea avevano un significativo miglioramento dello stato di salute con una riduzione del 9% della mortalità totale, del 9% della mortalità per cause cardiovascolari, del 13% dell'incidenza di patologie come Parkinson e Alzheimer, e del 6% dell'incidenza o mortalità per tumori.

# The effect of dietary counseling for weight loss: a meta-analysis

## Meta-analysis of 46 trials of dietary counseling



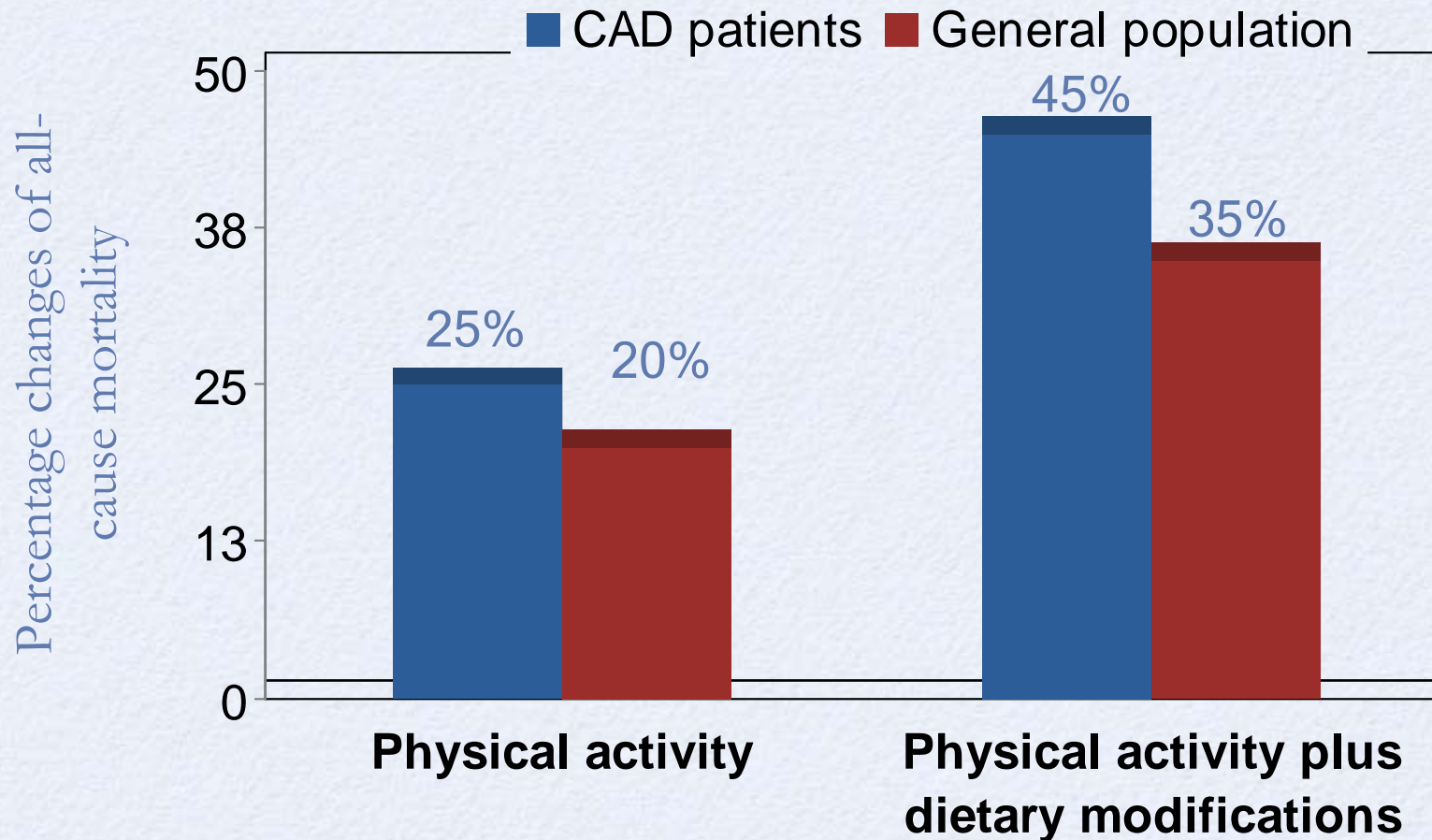
# Physical activity and health





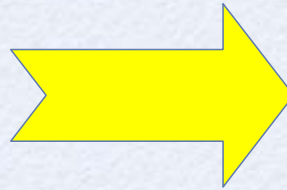
# Effect size estimates of lifestyle and dietary changes on all-cause mortality

A systematic review of all the intervention studies



# Physical activity

Available data and guidelines for primary prevention suggest that a volume of moderate-intensity aerobic physical activity of about **1,000 kcal/week**



An energy expenditure of 1000 kcal/week is achievable **by participating in 30 minutes or more of moderate-intensity aerobic physical activity** on most, or preferably all, days of the week

## Examples of aerobic physical activity:

- **running or jogging**
- **skating**
- **bycycling**
- **swimming, but also lifestyle common activities such as walking briskly, climbing stairs, doing more hours of hard work, and engaging in active recreational pursuits**

# Fourth Joint Task Force Guidelines on cardiovascular disease prevention in clinical practice

## Managing total CVD risk

**Stress that the positive health benefits occur with almost any increase in activity;** small amounts of exercise have an additive effect; exercise opportunities exist also in the workplace (e.g. stairs instead of lift)

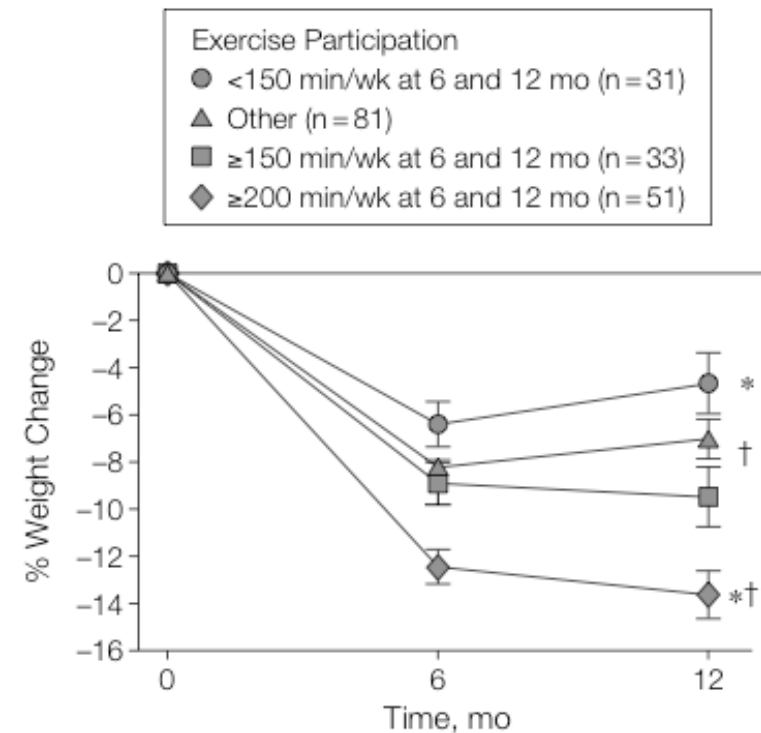
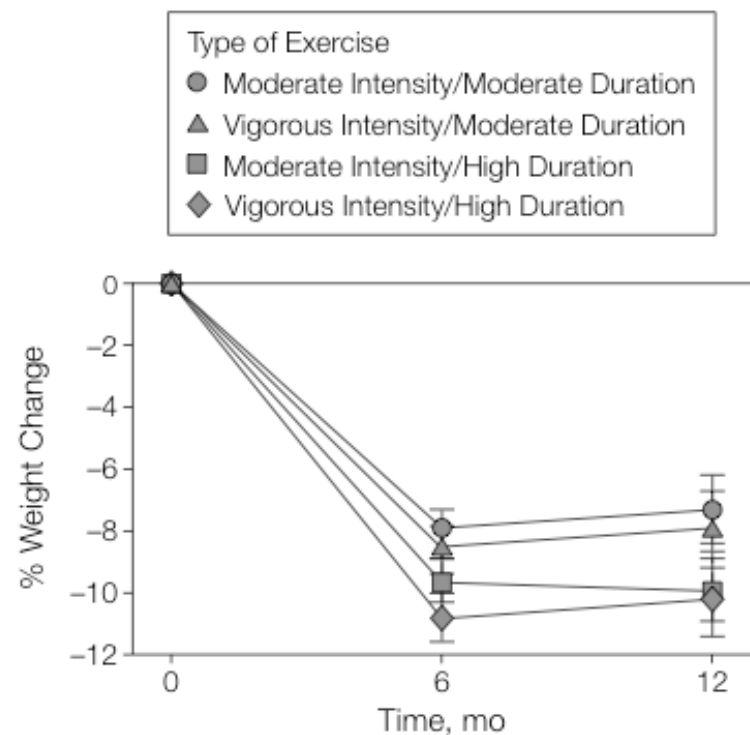
**Try to find leisure activities that are positively enjoyable**  
30 minutes of moderately vigorous exercise on most days of the week will reduce risk and increase fitness

**Exercising with family or friends tends to improve motivation**  
Added benefits include a sense of well-being, weight reduction and better self-esteem

# Exercise and weight loss: an intervention study

## Effect of Exercise Duration and Intensity on Weight Loss in Overweight, Sedentary Women

A Randomized Trial



# Using pedometers to increase physical activity and improve health



A systematic review with meta-analysis  
26 studies including 2,767 subjects

Risk parameter	N° studies (subjects)	Mean change (95% CI)	p value
<b>BMI</b>	18 (562)	- 0.38 (- 0.05; -0.72)	<b>0.03</b>
<b>Systolic blood pressure</b>	12 (468)	-3.8 (-1.7; -5.9)	<b>&lt; 0.001</b>
<b>Diastolic blood pressure</b>	12 (468)	-0.3 (-0.02; -0.46)	<b>0.01</b>
<b>Triglycerides</b>	7 (192)	-0.26 (-0.11; 0.11)	<b>0.009</b>

# Physical activity and health



## Il governo inglese: "Usate la Wii, fa bene"

Per la prima volta un videogioco - la console Wii Fit Plus - riceve il plauso diretto di un ministero della Salute

Per la prima volta, un ministero della Salute fa gli applausi a una console. Accade in Gran Bretagna, dove il governo darà il suo appoggio ufficiale

all'ultima arrivata di casa Nintendo, la Wii Fit Plus: una console che costringe bimbi e adulti a salire su una tavoletta e lanciarsi in movimenti particolari (dall'hula hoop allo skateboard, passando per la bicicletta, lo yoga e lo sci). Altro che joystick e divano.

L'appoggio governativo consisterà nel bollino "Change4Life" che la console potrà sfoggiare sulla confezione: un logo che indica che il governo approva il prodotto per la sua campagna contro l'obesità. La console (Wii Fit: la Plus entrerà in commercio questa settimana, in Gran Bretagna) ha avuto un enorme successo in tutto il mondo, e in Gran Bretagna - scrivono i quotidiani - ha fatto furore soprattutto tra le donne. Non solo: nell'ospedale Seacroft di Leeds, la console viene anche utilizzata per la fisioterapia

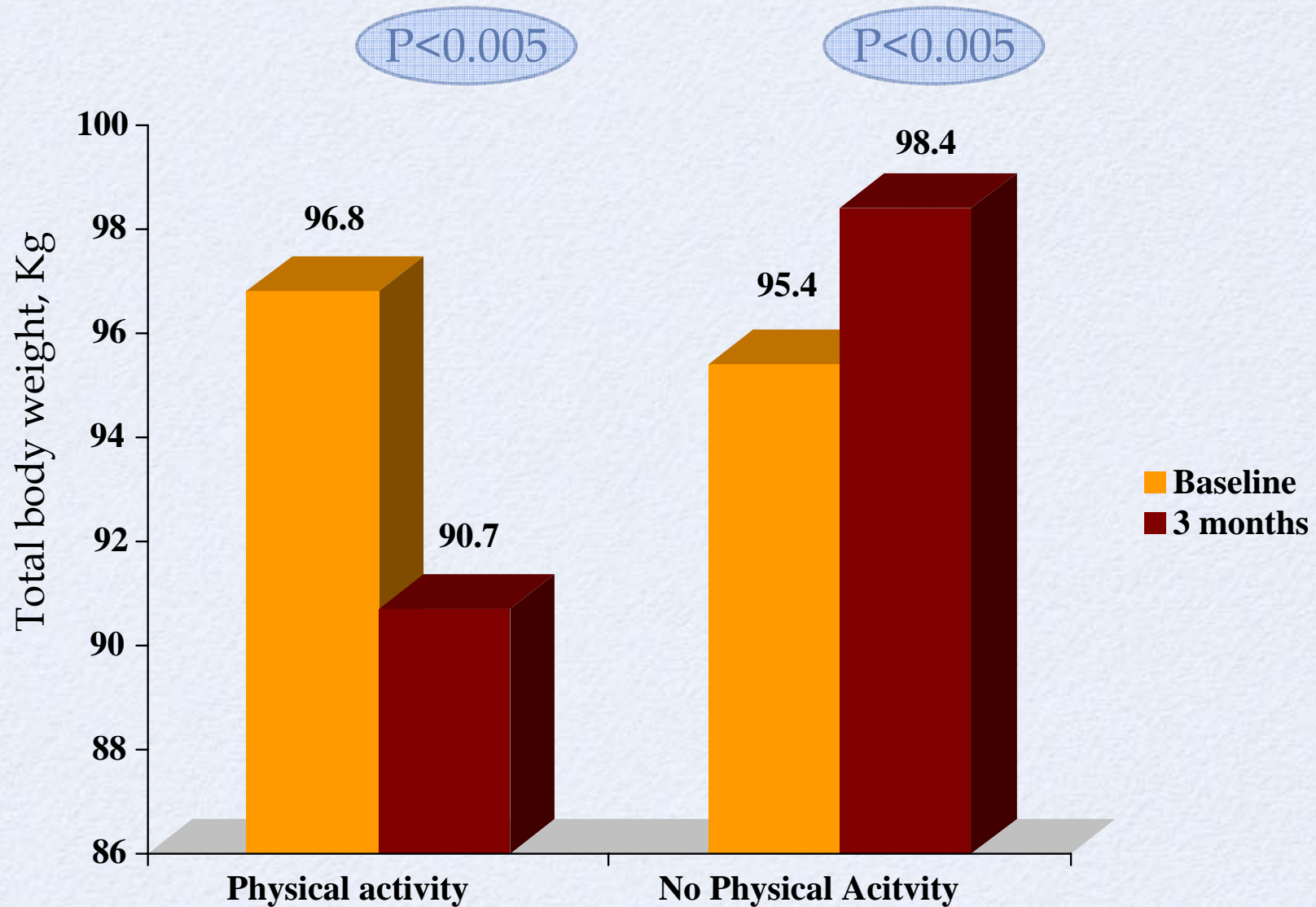
**27 ottobre 2009**

# Physical activity and weight loss

106 overweight and obese patients that underwent a weight-loss program with a physical activity program

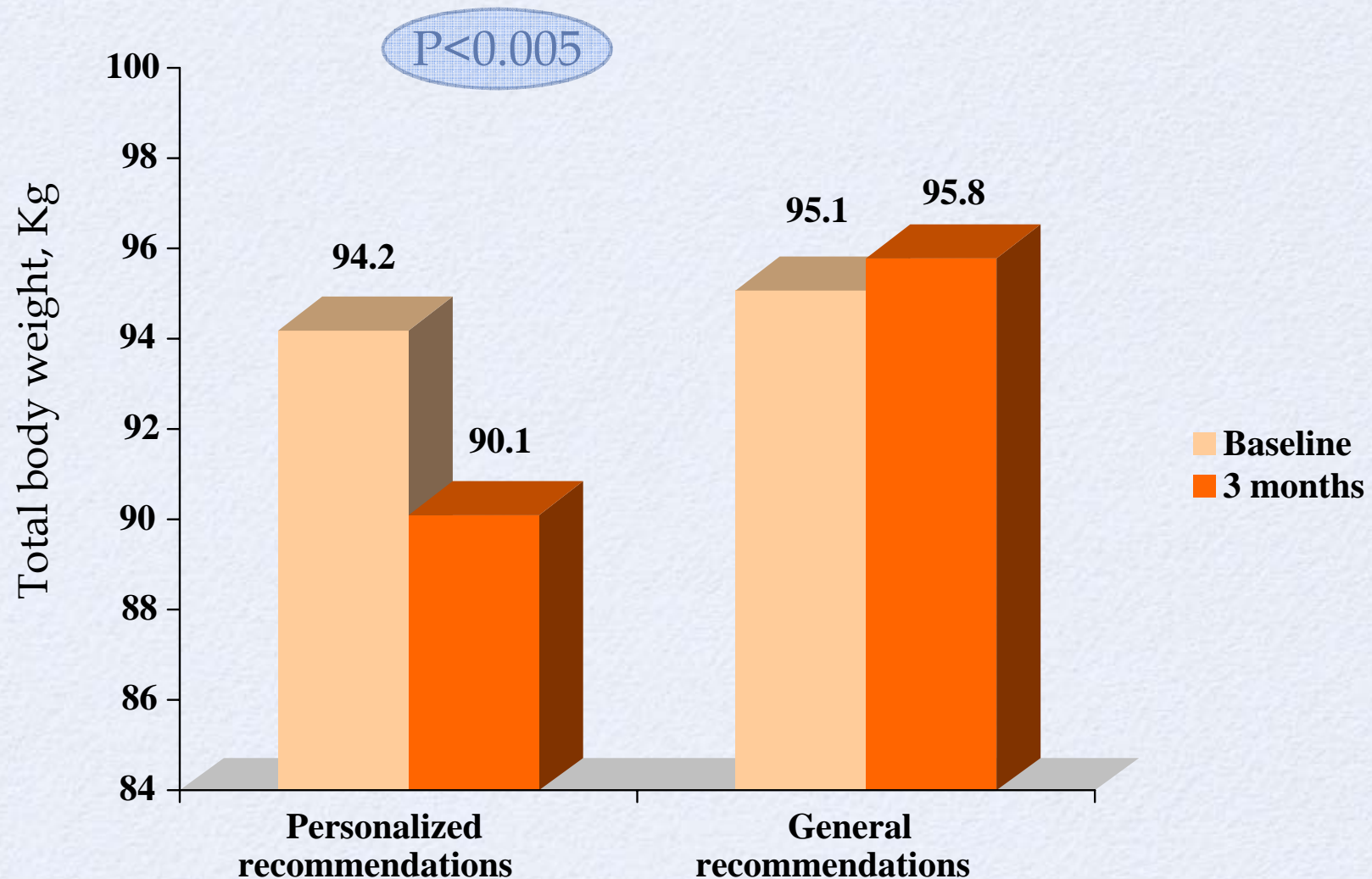


# Physical activity and weight loss

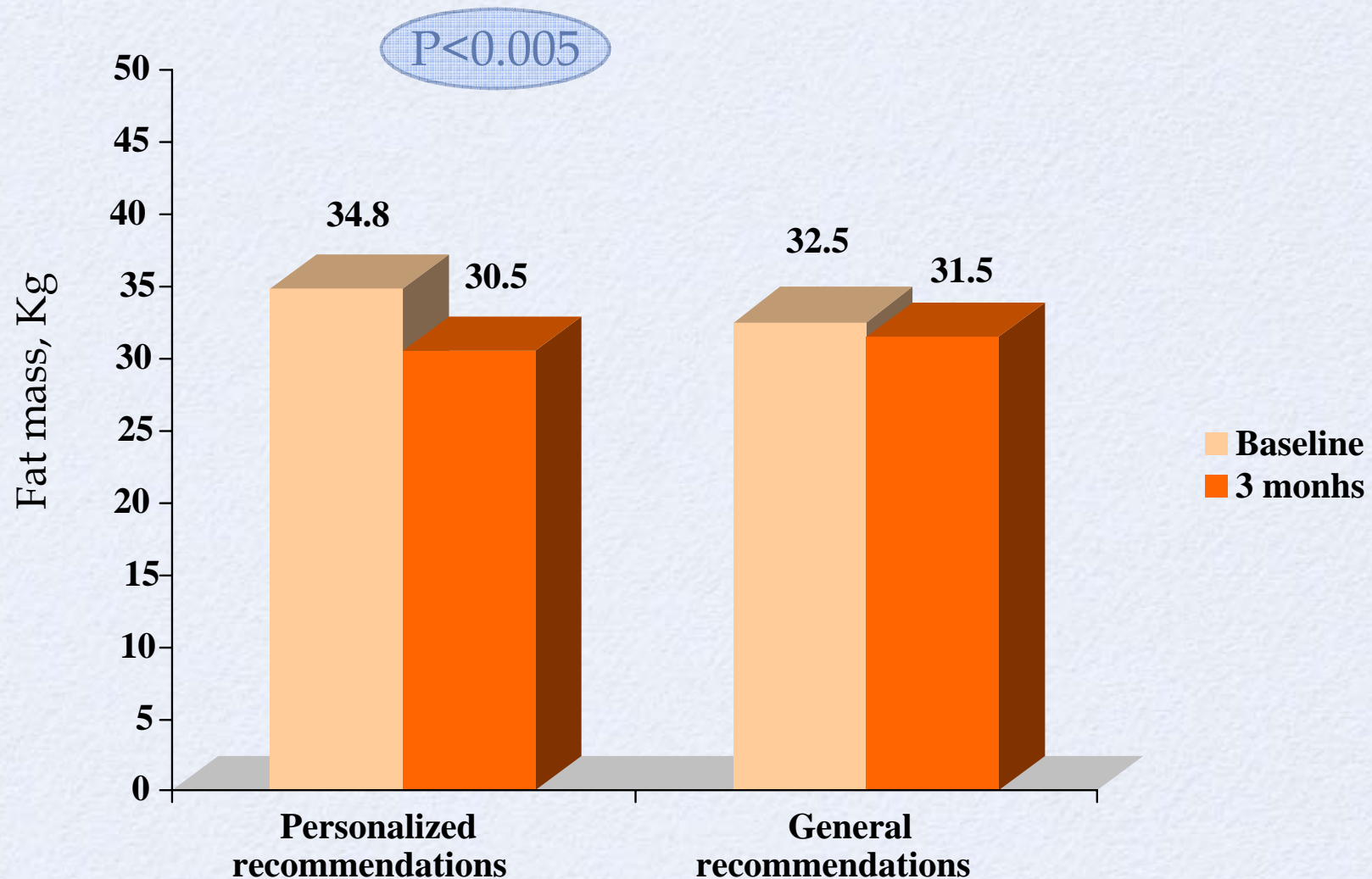




# Physical activity and weight loss

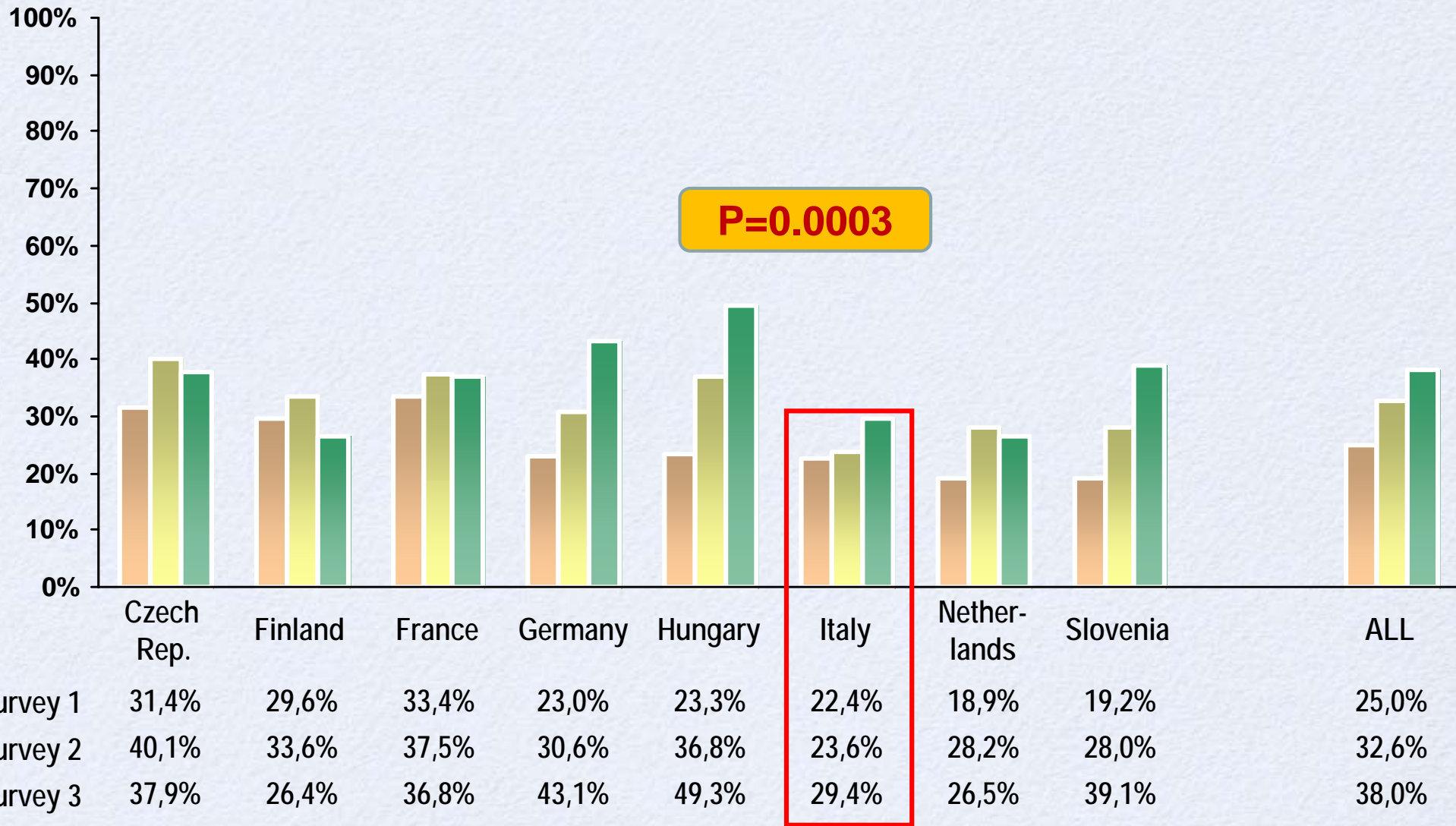


# Physical activity and weight loss



# Euroaspire III

## Prevalence of obesity



# Take-home messages

Don't trust in anyone...!

