

# OBESITY WEEK

VIII settimana per la prevenzione dell'obesità e per un corretto stile di vita

PARMA, 6-18 Ottobre 2015

## OBESITÀ PEDIATRICA E ALTERAZIONI DEL METABOLISMO GLICIDICO: VERSO UNA LINEA GUIDA CONDIVISA

WORKSHOP congiunto tra Gds "Obesità Infantile" e Gds "Diabete" della SIEDP

GIOVEDÌ 15 OTTOBRE 2015

Parma, Sala Aurea  
Camera di Commercio di Parma  
Via Verdi 2 - Parma  
Ore 14.00 - 18.30



**Obesità, cervello e tumori**  
**Leone ARSENIO**

## INCONTRO GOLF, BENESSERE E ALIMENTAZIONE: IL PAR DELLA VITA"

DOMENICA 11 OTTOBRE 2015

Golf del Ducato  
Strada Martinella, 328/A - Vigatto (PR)  
Ore 18.00 - 19.30

CAMERA DI COMMERCIO DI PARMA

Sala Aurea  
Via Verdi, 2 - Parma

## DA QUI... ALL'OBESITÀ

IMMUNITÀ, AMBIENTE E OBESITÀ

PARMA, 16 Ottobre 2015

Ore 08.30-18.20



## OBESITY WEEK, VIII EDIZIONE CAFFEXPO - CAFFÈ SCIENTIFICI LETTERARI

Presentazione del volume  
"A tavola con gli insetti"  
di Giovanni Sogari e Paul Vantomme

LUNEDÌ 12 OTTOBRE 2015

presso Libreria Feltrinelli  
Strada Farini, 17 - Parma  
Ore 18.30 - 19.30

## CENT'ANNI DEL NUOVO OSPEDALE DI PARMA Convegno ECM ALIMENTAZIONE, ATTIVITÀ FISICA, OBESITÀ E SALUTE: PASSATO, PRESENTE E FUTURO

MARTEDÌ 13 OTTOBRE 2015

Aula "G" centro congressi dell'Azienda Ospedaliero - Universitaria di Parma

Ore 15.00 - 18.00

## "DISABILITÀ, ATTIVITÀ FISICA E ALIMENTAZIONE"

## "STRATEGIE PRATICHE NELLA LOTTA ALL'OBESITÀ"

SABATO 17 OTTOBRE 2015

Sala Aurea  
Camera di Commercio di Parma  
Via Verdi, 2 - Parma  
Ore 9.00 - 11.30

DOMENICA 18 OTTOBRE 2015

Auditorium della Fondazione di Piacenza e Vigevano  
Via S. Eufemia, 13 - Piacenza  
Ore 17.00

Show cooking  
Eataly, Stradone Farnese 39 - Piacenza  
Ore 19.00



## ALIMENTAZIONE OBESITÀ E SALUTE

MERCOLEDÌ 14 OTTOBRE 2015

Sala Cinema-Teatro  
Via Italo Ferrari, 5  
Sissa Trecasali (PR)

Ore 20.30

# **Adherence to the World Cancer Research Fund/American Institute for Cancer Research guidelines and risk of death in Europe: results from the European Prospective Investigation into Nutrition and Cancer cohort study.**

**Vergnaud AC et al Am J Clin Nutr. 2013 Apr 3**

**DESIGN:** The current study included 378,864 participants from 9 European countries enrolled in the European Prospective Investigation into Cancer and Nutrition study. At recruitment (1992-1998), dietary, anthropometric, and lifestyle information was collected. A WCRF/AICR score, which includes adherence to recommendations on fruit and vegetable intake, physical activity, alcohol consumption, and body mass index, was calculated for each participant.

**R**esults showed that the hazard ratio for all-cause mortality was 0.54 (95% confidence interval [CI], 0.48-0.60) for the highest quintile of the WCRF/AICR score compared with the lowest quintile. This association was significant in both men and women. Significant inverse associations were observed in all countries. The WCRF/AICR score was also significantly associated with a lower hazard of dying from cancer, circulatory disease, and respiratory disease.

**CONCLUSION:** Results of this study suggest that following WCRF/AICR recommendations could significantly increase longevity.



## **Vegetarian dietary patterns and mortality in**

Negli Avventisti diete prevalentemente vegetali -12% del rischio di mortalità totale, maschi (-18%) femmine (-8%), riduzione maggiore per i pesco-vegetariani, latto-ovo vegetariani e vegani

## **Vegetarian dietary patterns and the risk of colorectal**

**Negli Avventisti le diete vegetarie, in particolare le pesco-vegetarie, hanno un rischio di ca. colon-rettale significativamente più basso**

*JAMA Intern Med 2018 May; 178(5):757-761*

160mila donne, il consumo regolare (2 volte/settimana) di pesce fresco al forno, al cartoccio, in padella (ma non fritto) si associa con una riduzione tra il 15 e il 23% del rischio di carcinoma endometriale, nelle donne normopeso.

**se un uomo di 67 anni sostituisse la carne rossa alla brace con l'arrosto, potrebbe prevenire la perdita di 3 giorni in salute/anno; una donna coetanea 4,5 giorni in più in salute/anno.**

coorte NHSII 44.231 donne 33-52 anni: La sostituzione di una porzione/die di carne rossa totale con una porzione a scelta di pollame, pesce, legumi e noci riduce il rischio del 15% di cancro al seno in generale e del 23% in premenopausa.

506 pazienti : la dieta a base di carne, e quella con prevalenza di zuccheri semplici, erano associate al cancro colon-rettale

## Dietary patterns and breast cancer risk: a

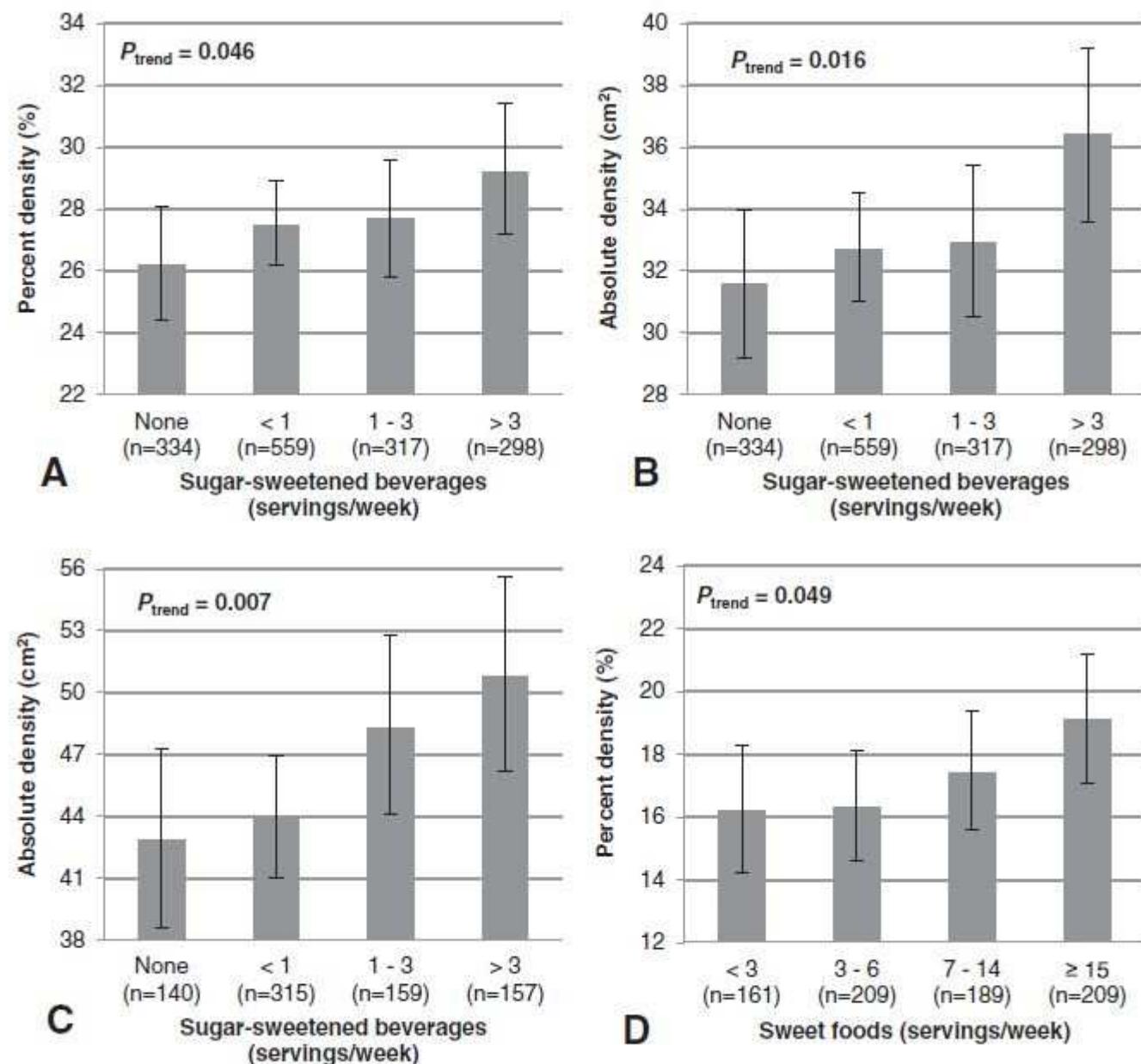
**Due studi canadesi CSDLH e NBSS: in entrambi carne e patate aumentano il rischio nelle donne in menopausa**

Rohrmann et al. BMC Medicine 2013, 11:63  
<http://www.biomedcentral.com/1741-7015/11/63>



Chi mangia più di 160 gr. di carne lavorata/die (ad es. due salsicce e una fetta di pancetta) avevano +44% di probabilità di morire vs quelli che si limitano a circa 20 gr./die. Se tutti i partecipanti avessero ridotto a 20 grammi il consumo di questi insaccati si sarebbe potuto evitare il 3% delle morti premature, in particolare per CVD, ma anche cancro.

Sabine Rohrmann<sup>1,2\*</sup>, Kim Overvad<sup>3</sup>, H Bas Bueno-de-Mesquita<sup>4,5</sup>, Marianne U Jakobsen<sup>3</sup>, Rikke Egeberg<sup>6</sup>,



**Figure 1** Mammographic density according to number of servings per week of beverages or sweet foods. Percent (A) and absolute (B) density according to weekly servings of sugar-sweetened beverages among all women. Absolute density according to weekly servings of sweet foods (C) and percent density (D) according to weekly servings of sweet foods. Women with higher MD.

# Fat, fibre and cancer risk in African Americans and rural Africans



[Stephen J. D. O'Keefe](#), [Jia V. Li](#), [Leo Lahti](#), [Junhai Ou](#), *et al.*

Nature Communications 6, Article number:6342 doi:10.1038/ncomms7342

Published 28 April 2015

## Abstract

Rates of colon cancer are much higher in African Americans (65:100,000) than in rural South Africans (<15:100,000). The higher rates are associated with higher animal

**Sono sufficienti due settimane di ‘junk food’ per avere effetti visibili sulla salute dell'intestino, con modificazione dei biomarker che aumentano il rischio di tumore.**

subjects from the same populations, where African Americans were fed a high-fibre, low-fat African-style diet and rural Africans a high-fat, low-fibre western-style diet, under close supervision. **In comparison with their usual diets, the food changes resulted in remarkable reciprocal changes in mucosal biomarkers of cancer risk and in aspects of the microbiota and metabolome known to affect cancer risk, best illustrated by increased saccharolytic fermentation and butyrogenesis, and suppressed secondary bile acid synthesis in the African Americans.**

Review



## The Interaction between Epigenetics, Nutrition and the Development of Cancer

L'incidenza del cancro è la risultante di una interazione fra genoma ed epigenoma.

Protettivi: i folati da verdure a foglia verde, acidi cinnamici da caffè, cereali integrali, susine e kiwi, polifenoli come la epigallocatechina-3-gallato (Egcg) dal tè verde, resveratolo da uve rosse e dai loro prodotti, isotiocianati da verdure crocifere, lignani di semi di lino, isoflavoni di soia, terpeni come il licopene del pomodoro, selenio, vitamina E e anche la vitamina D



**Figure 1.** A diagrammatic representation of the extent and type of epigenetic modifications that promote cancer risk and/or progression, and the modifiable (in green ovals) and non-modifiable (in red ovals) factors that may influence these epigenetic modifications.



## RESEARCH

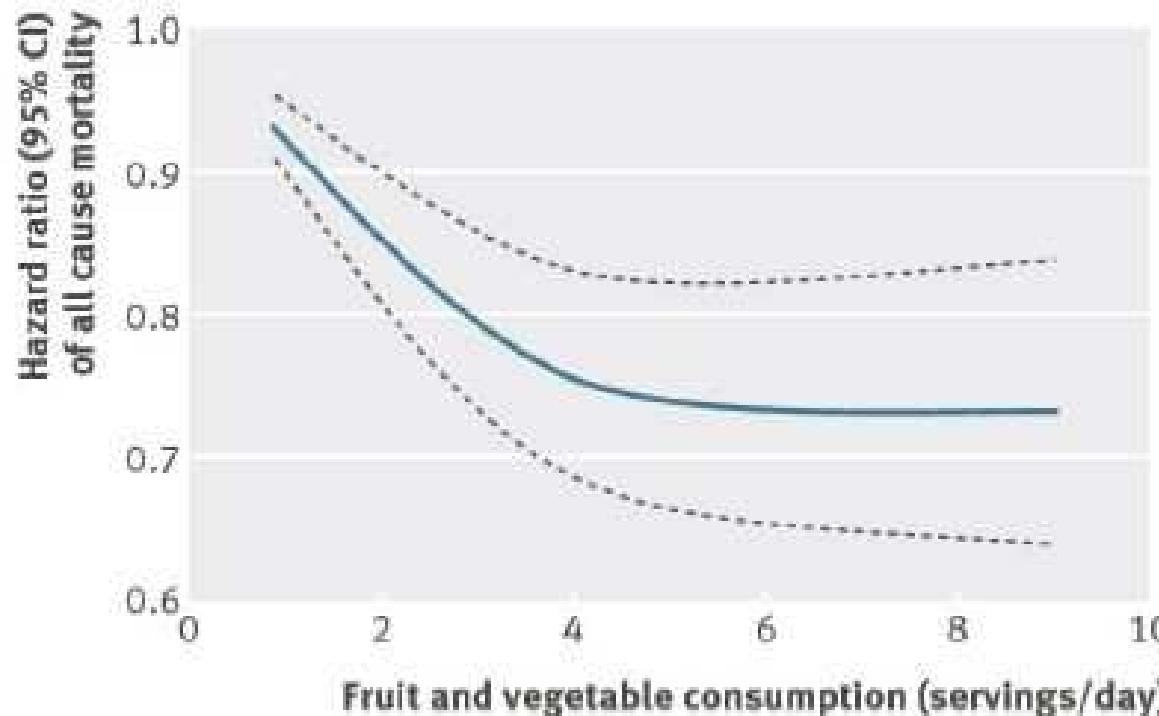
# Fruit and vegetable consumption and mortality from all causes, cardiovascular disease, and cancer: systematic review and dose-response meta-analysis of prospective cohort studies

OPEN ACCESS

Xia Wang

**Results** Six studies ranging from cancer) among with a lower hazard interval 0.95 for fruit ( $P=0.001$ ) of fruit and inverse association fruit and vegetable

**Conclusion** associated



un Liu research fellow<sup>2</sup>,  
ing follow-up periods.  
ir disease and 16 817 from  
was significantly associated  
ere 0.95 (95% confidence  
( $P=0.001$ ), 0.94 (0.90 to 0.98)  
reshold around five servings  
ce further. A significant  
n additional serving a day of  
umption of fruit and  
tion of fruit and vegetables is  
lity.

## Citrus Consumption and Risk of Cutaneous Malignant Melanoma.

Wu S, Han J, Feskanich D, Cho E, Stampfer MJ, Willett WC, Qureshi AA.



J Clin Oncol. 2015 Jun 29. pii: JCO.2014.57.4111. [Epub ahead of print]

**PURPOSE:** Citrus products are widely consumed foods that are rich in psoralens and furocoumarins, a group of naturally occurring chemicals with potential photocarcinogenic properties. We prospectively evaluated the risk of cutaneous malignant melanoma associated with citrus consumption.

N chi mangiava arance e pompelmi, contenenti furocumarine, in una famiglia di composti fotoattivi, e relativi succhi 2-4 volte/settimana aveva un 10% di aumento del rischio di melanoma, che aumentava al 36% nei soggetti che mangiavano i frutti, specie il pompelmo, più di 1,5 volte/giorno

association with risk of melanoma, which was independent of other lifestyle and dietary factors. The pooled multivariable hazard ratio for melanoma comparing the extreme consumption categories of grapefruit ( $\geq$  three times per week v never) was 1.41 (95% CI, 1.10 to 1.82;  $P_{\text{trend}} < .001$ ).

**CONCLUSION:** Citrus consumption was associated with an increased risk of malignant melanoma in two cohorts of women and men. Nevertheless, further investigation is needed to confirm our findings and explore related health implications.

# A randomized double-blind placebo controlled phase I–II study on clinical and molecular effects of dietary supplements in men with precancerous prostatic lesions. Chemoprevention or “chemopromotion”?



Paolo Gontero, Giancarlo Marra, Francesco Soria, et al.

The Prostate Volume 75, Issue 11, pages 1177–1186, August 1, 2015

DOI: 10.1002/pros.22999

**METHODS** From 2009 to 2014, we conducted a dbRCT including 60 patients with primary mHGPin and/or ASAP receiving daily **lycopene** 35 mg, **selenium** 55 µg, and **GTCs** 600 mg, or

I soggetti con lesioni precancerose, trattati con licopene, selenio e catechine in elevate quantità, hanno avuto probabilità tre volte maggiori di sviluppare un cancro alla prostata vs quelli trattati con solo placebo, e mostravano sovraespressione di numerosi geni oncogeni e una diminuita espressione di oncosoppressori, verosimilmente indotte dagli antiossidanti.

present on re-biopsy in the supplementation group compared to the placebo, including: (i) overexpression of miRNAs present in PCa versus non-cancer tissue; (ii) underexpression of miRNAs suppressing PCa proliferation; (iii) detection of 35 miRNAs in PCa patients versus disease-free men, including androgen-regulated miR-125b-5p and PTEN-targeting miR-92a-3p (both upregulated). **CONCLUSION** Administration of high doses of lycopene, GTCs, and selenium in men harboring HGPin and/or ASAP was associated with a higher incidence of PCa at re-biopsy and overexpression of microRNAs implicated in PCa progression at molecular

# **Lifestyle, nutrition and breast cancer: facts and presumptions for consideration**

Krizia Ferrini, Francesca Ghelfi, Roberta Mannucci and Lucilla Titta

ecancer 9 557 / DOI: 10.3332/ecancer.2015.557

...After a comprehensive review regarding the role of lifestyle on breast cancer outcomes and a thorough study of the dissemination field including mass media, clinical institutions, and academic figures, we briefly reported the most common presumptions and also facts from the literature regarding lifestyle, nutrition, and breast cancer.

**il miglior consiglio è quello di seguire le raccomandazioni del World Cancer Research Fund / American Institute of Cancer Research (WCRF / AICR), che attribuisce solo alle bevande alcoliche e al grasso corporeo un ruolo convincente nel ca. mammario.**

recommendations on diet, nutrition, physical activity, and weight management for cancer prevention, because they are associated with a lower risk of developing most types of cancer, including breast cancer. Despite current awareness of the role of nutrition in cancer outcomes, there is inadequate translation from research findings into clinical practice. We suggest the establishment of a multidisciplinary research consortium to demonstrate the real power of lifestyle interventions.



## Circa 240mila partecipanti: l'obesità è associata indipendentemente con un'aumentata mortalità da cancro pancreatico negli afroamericani

04/22. Epub 2014 Jul 15.

oltre 5,2 milioni di inglesi per 7,5 anni: stretta relazione fra BMI e alcuni cancri -utero (+62%), colecisti (+31%), rene (+25%) e in minor misura di fegato, colon, cervice, tiroide, ovaio, mammella nelle donne in post-menopausa, pancreas, retto e leucemie

**L'obesità classe III è associata con la mortalità totale, con cardiopatie, cancro, e diabete, e maggiori riduzioni nella spettanza di vita comparata con i normopeso**

PLoS Med. 2014 Jul 8;11(7):e1001673. doi: 10.1371/journal.pmed.1001673. eCollection 2014.

**1.442 uomini, età media 68 anni, trattati con radioterapia per ca. prostatico localizzato tra il 2001 e il 2010 e seguiti in media per 4 anni: essere obesi o sovrappeso si associa a un tasso di recidiva +13% e +7% di metastasi a distanza, e a una mortalità generale e tumore-specifica aumentate rispettivamente del 5% e del 15%**

# **Overweight, Obesity, and Postmenopausal Invasive Breast Cancer Risk: A Secondary Analysis of the Women's Health Initiative Randomized Clinical Trials**

Marian L. Neuhouser, Aaron K. Aragaki,; Ross L. Prentice; JoAnn E. Manson, et al.

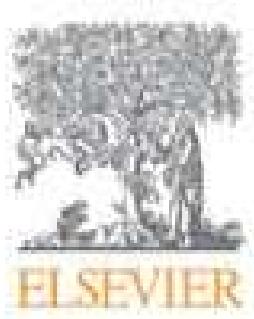


**JAMA Oncol. Published online June 11, 2015. doi:10.1001/jamaoncol.2015.1546**

**Design, Setting, and Participants** The WHI clinical trial protocol... in 67 142 postmenopausal women ages 50 to 79 years at 40 US clinical centers. The women were enrolled from 1993 to 1998 with a median of 13 years of follow-up through 2010; 3388 invasive breast cancers were

**67.142 donne in postmenopausa seguite dal 1993 al 1998 in media per 13 anni: obesità e sovrappeso si legano a un aumento delle probabilità di ca. mammario invasivo, specie nelle le donne con BMI superiore a 35. Inoltre, le donne normopeso, che avevano guadagnato più del 5% di peso corporeo durante il follow-up avevano un aumentato rischio di cancro al seno.**

already overweight or obese we found no association of weight change (gain or loss) with breast cancer during follow-up. There was no effect modification of the BMI-breast cancer relationship by postmenopausal hormone therapy, and the direction of association across BMI categories was similar for never, past, and current hormone therapy use. **Conclusions and Relevance** **Obesity is associated with increased invasive breast cancer risk in postmenopausal women.** These clinically meaningful findings should motivate programs for obesity prevention.



Regular Article

## The evolution of body mass and relative brain size in fossil hominids

John Kappelman

Il quoziente di encefalizzazione nell'uomo  
raggiunge valori medi di 7,4-7,8, mentre nello  
scimpanzè è di 2,2-2,5  
nel cervello di un uomo adulto: 86 miliardi di  
neuroni e 85 miliardi di cellule non neuronali

# Exceptional Evolutionary Divergence of Human Muscle and Brain Metabolomes Parallels Human Cognitive and Physical Uniqueness



Katarzyna Bozek<sup>1,2</sup>, Yuning Wei<sup>1,3</sup>, Zheng Yan<sup>1</sup>, Xiling Liu<sup>1</sup>, Jieyi Xiong<sup>1,3</sup>, Masahiro Sugimoto<sup>4</sup>, Masaru Tomita<sup>4</sup>, Svante Pääbo<sup>2</sup>, Raik Pieszek<sup>2</sup>, Chet C. Sherwood<sup>5</sup>, Patrick R. Hof<sup>6</sup>, John J. Ely<sup>7</sup>, Dirk Steinhäuser<sup>8</sup>, Lothar Willmitzer<sup>8</sup>, Jens Bangsbo<sup>9</sup>, Ola Hansson<sup>10</sup>, Josep Call<sup>2\*</sup>, Patrick Giavalisco<sup>8\*</sup>, Philipp Khaitovich<sup>1,2\*</sup>

**Con l'evoluzione il profilo metabolico (metaboloma) della corteccia prefrontale umana ha avuto il quadruplo dei cambiamenti riscontrabili nello scimpanzé, mentre il muscolo ha ridotto di 8 volte la forza muscolare vs i primati.**

**Il cervello umano consuma molta più energia rispetto ai cervelli delle altre specie**

# Metabolic costs and evolutionary implications of human brain development



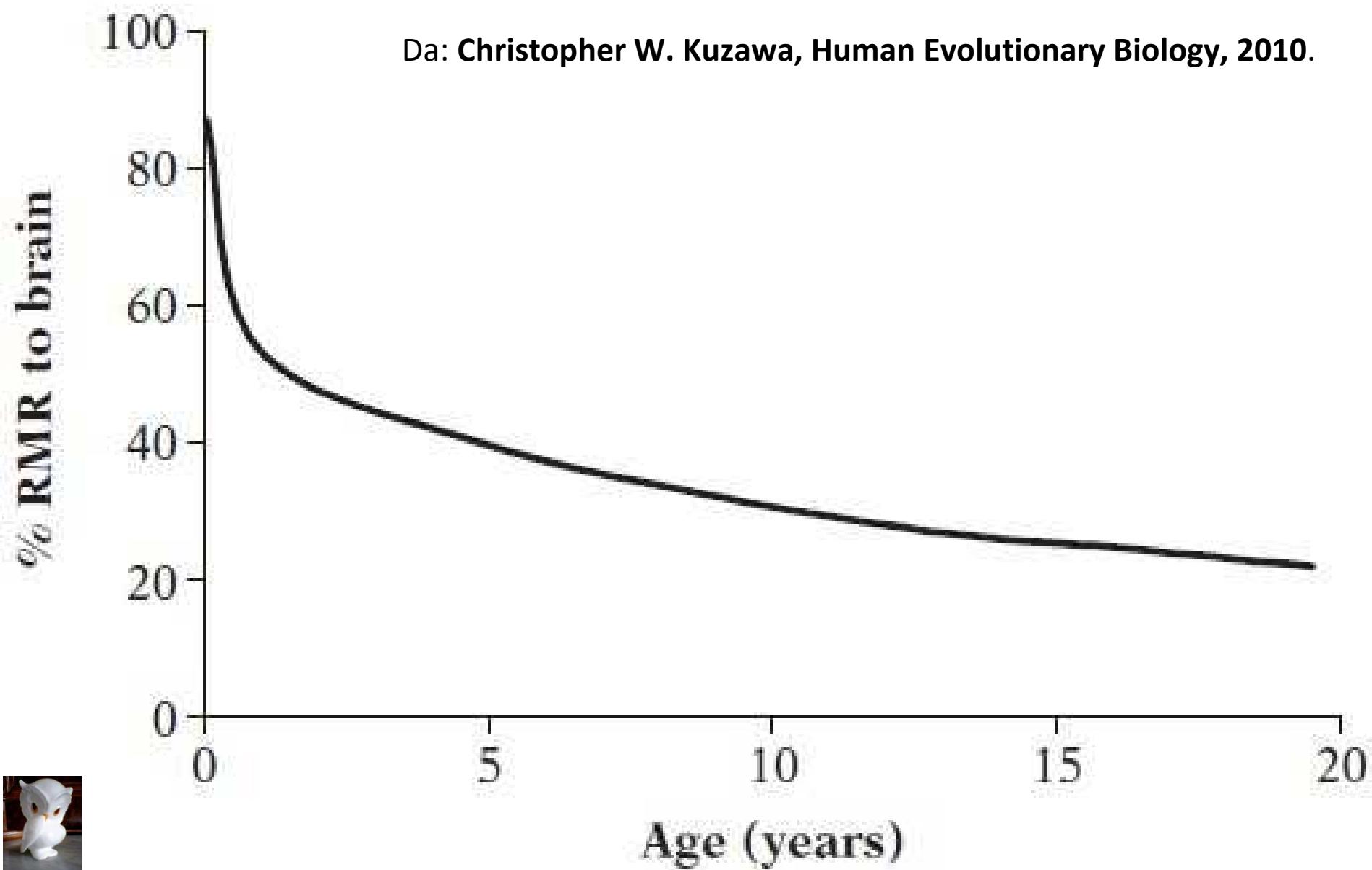
PNAS September 9, 2014 vol. 111 no. 36 doi: 10.1073/pnas.1323099111

Christopher W. Kuzawa<sup>a,b,1</sup>, Harry T. Chugani<sup>c,d,e</sup>, Lawrence I. Grossman<sup>f</sup>, Leonard Lipovich<sup>e,f</sup>, Otto Muzik<sup>d</sup>,

**A 4 anni, il consumo arriva al valore di picco, circa 66% del consumo totale dell'organismo, e, insieme, il tasso di crescita corporea rallenta, fino al suo minimo.**

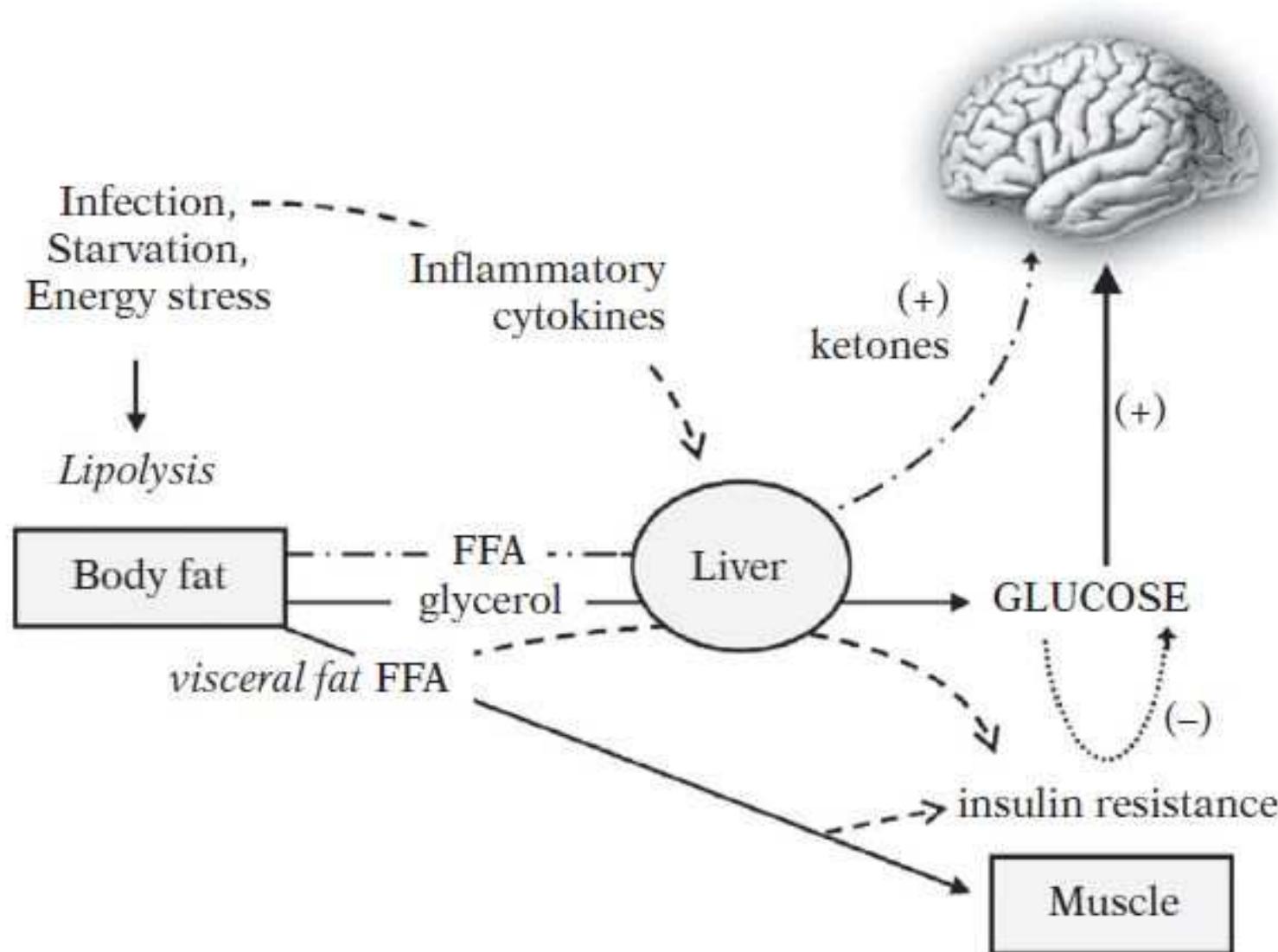
**In termini assoluti, il massimo valore di consumo energetico del cervello si raggiunge a 5 anni, ed è pari al doppio di quello di un soggetto adulto.**

support the hypothesis that the high costs of human brain development require compensatory slowing of body growth rate.



**30.3.** Percentage of resting metabolic rate (RMR) devoted to the brain by age in humans. Data adapted from Holliday (1986).

Da: Christopher W. Kuzawa, Human Evolutionary Biology, 2010



iseases result between our lifestyle and diet is now widely accepted, and it seems clear that



# L'insulino-resistenza è un meccanismo fisiologico che risparmia glucosio in caso di stress energetico

J Appl Physiol, 96: 3-10, 2004

Manu V. Chakravarthy<sup>1</sup> and Frank W. Booth<sup>2</sup>



## Identification and validation of N-

Gene dell'insulino-resistenza: individuata una variante non sinonima della NAT2 [rs1208 (803A>G, K268R)], indipendente dal BMI, risultata fortemente associata ad una ridotta sensibilità insulinica.

# L'esercizio fisico migliora l'insulinemia a digiuno e l'insulino-resistenza in bambini e adolescenti con effetti positivi sulla prevenzione e sul trattamento del DM di tipo 2

18  
42)



Nel sedentario elevati livelli di TG intramuscolari determinano insulino-resistenza, mentre nell'atleta rimane l'insulino-sensibilità

il **ciclo di Randle** (FFA/glucosio), grazie al quale l'utilizzo preferenziale di un nutriente inibisce l'altro in maniera diretta e senza mediazioni ormonali.

In caso di digiuno o sforzi protratti, gli FFA diventano il carburante principale per la respirazione ossidativa.

Un eccesso calorico, non compensato dall'attività fisica, provoca un aumento di metaboliti lipidici intermedi che danneggiano lentamente ma irreversibilmente l'attività ossidativa mitocondriale (Hue L, Taegtmeyer H, 2009)

L'iperafflusso di FFA al fegato è interpretato come un segnale di mobilizzazione dei grassi dai depositi, con aumento della neoglucogenesi e dell'insulino-resistenza a livello epatico e muscolare (Kabir M et al., 2005).



## **Glucose uptake by the brain on chronic high-protein weight-loss diets with either moderate or low amounts of carbohydrate.**

Lobley GE, Johnstone AM, Fyfe C, Horgan GW, et al.

Br J Nutr. 2014 Feb;111(4):586-97. doi: 10.1017/S0007114513002900.



Previous work has shown that hunger and food intake are lower in individuals on high-protein (HP) diets when combined with low carbohydrate (LC) intakes rather than with moderate carbohydrate (MC) intakes and where a more ketogenic state occurs. The aim of the present study was to investigate whether the difference between HPLC and HPMC diets was associated

**12 obesi con diete a 22 (HPLC) o 182 (HPMC) gr di glucosio:  
le quantità di glucosio arrivate al cervello differivano di  
poco, circa il 5%.**

**L'assorbimento di glucosio da parte delle cinquantaquattro  
regioni del cervello analizzate con la PET è rimasta simile  
per le due diete.**

was approximately 4-fold greater for the HPLC dietary intervention than for the HPMC diet ( $P<0.001$ ). The 9-fold difference in carbohydrate intakes between the HPLC and HPMC dietary interventions led to a 5% lower supply of glucose to the brain. Despite this, the uptake of glucose by the fifty-four regions of the brain analysed remained similar for the two dietary interventions. In conclusion, differences in the composite hunger score observed for the two dietary interventions are not associated with the use of alternative fuels by the brain.

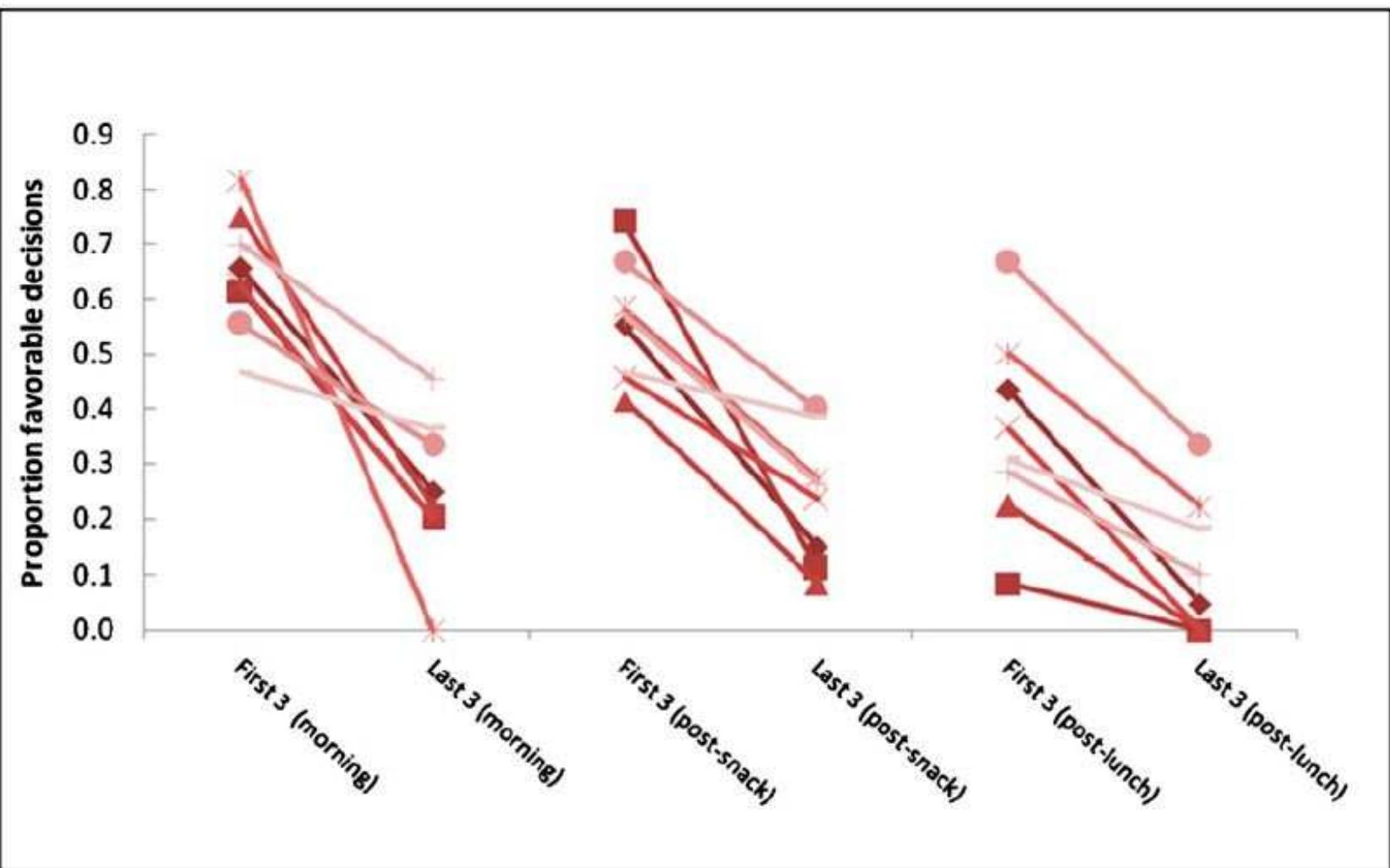
# Extraneous factors in judicial decisions

Shai Danziger<sup>a,1</sup>, Jonathan Levav<sup>b,1,2</sup>, and Liora Avnaim-Pesso<sup>a</sup>

**PNAS, April 26, 2011 vol. 108 no. 17**

<sup>a</sup>Department of Management, Ben Gurion University of the Negev, Beer Sheva 84105, Israel; and <sup>b</sup>Columbia Business School, Columbia University, New York, NY 10027

Edited\* by [REDACTED]





# Type 2 diabetes and risk of cancer.

Satija A, Spiegelman D, Giovannucci E, Hu FB.

*BMJ 2015;350:g7707.*

**Strong evidence points to an association between diabetes and several major cancers**

Over the past 50 years, numerous studies have linked diabetes, in particular type 2 diabetes, to an increased risk of cancer. In 2010, a consensus report by the American Diabetes Association and American Cancer Society concluded that **type 2 diabetes is convincingly associated with an increased risk for several cancers** (colorectal, breast, endometrial, liver, pancreatic, and bladder), while the evidence is less conclusive for others (such as kidney cancer, leukemia, and esophageal cancer).<sup>1</sup>

In a linked article, Tsilidis and colleagues (doi:10.1136/bmj.g7607) present an umbrella review of **27 meta-analyses** summarizing the **associations between type 2 diabetes and cancer**.<sup>2</sup> This review represents one of the most comprehensive efforts to summarize an important, albeit complex, question in epidemiology. In their review, Tsilidis and colleagues confirmed robust associations between type 2 diabetes and the risk of breast, colorectal, intrahepatic cholangiocarcinoma, and endometrial cancer. For most other cancer sites, however, they concluded that the associations with type 2 diabetes were not convincing, despite clinically and statistically significant summary estimates from the meta-analyses. A main reason for this largely negative conclusion is the use of a number ...

# Ideal Cardiovascular Health Is Inversely Associated With Incident Cancer

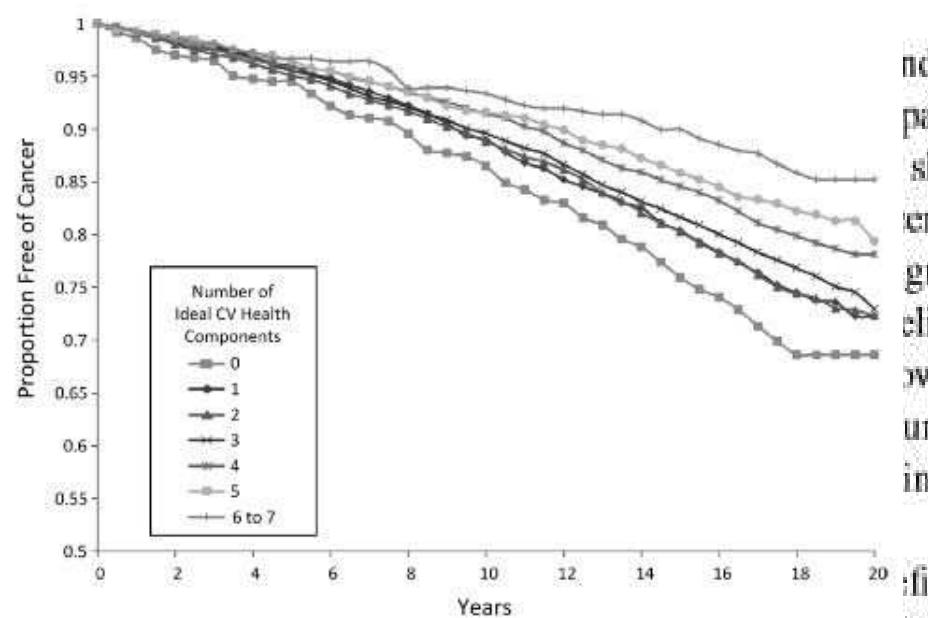


## The Atherosclerosis Risk in Communities Study

Laura J. Rasmussen-Torvik, PhD, MPH; Christina M. Shay, PhD, MA;  
Judith G. Abramson, MD, MSCI; Christopher A. Friedrich, MD, PhD; Jennifer A. Nettleton, PhD;  
Anna E. Prizment, PhD, MPH; Aaron R. Folsom, MD, MPH

**Background**—The American Heart Association (AHA) has defined cardiovascular (CV) health as the attainment of the 2020 Strategic Impact Goals. We examined whether adherence to the AHA CV health goals was associated with cancer incidence.

Rasmussen-Torvik et al



Conclusion—The AHA should continue to pursue partnerships to reduce cancer incidence and disease prevalence. (Circulation. 2013;127:1270-1275.)

13.253 pazienti per 17-19a.,  
aderenti a 6 o 7 parametri ideali  
di salute cardiovascolare (2,7%  
della popolazione), avevano un  
rischio del **51%** più basso di  
incidenza di cancro rispetto a chi  
non aderiva ad alcun parametro;  
l'associazione è risultata attenuata per i  
soggetti che aderivano da 5 a 6 parametri di  
salute e che presentavano un rischio di  
cancro del 25% inferiore rispetto ai soggetti  
che non presentavano alcun parametro  
(P=0.03).



### Body fatness

Be as lean as possible within the normal range of body weight.



### Physical activity

Be physically active as part of everyday life.



### Foods and drink that promote weight gain

Limit consumption of energy-dense foods. Avoid sugary drinks.



### Plant foods

Eat mostly foods of plant origin



### Animal foods

Limit intake of red meat and avoid processed meat.



### Alcoholic drinks

Limit alcoholic drinks.



### Preservation, processing, preparation

Limit consumption of salt. Avoid mouldy cereals (grains) or pulses (legumes).



### Dietary supplements

Aim to meet nutritional needs through diet alone.



World  
Cancer  
Research Fund



American  
Institute for  
Cancer Research

## Obesity Trends\* Among U.S. Adults **BRFSS, 1985**

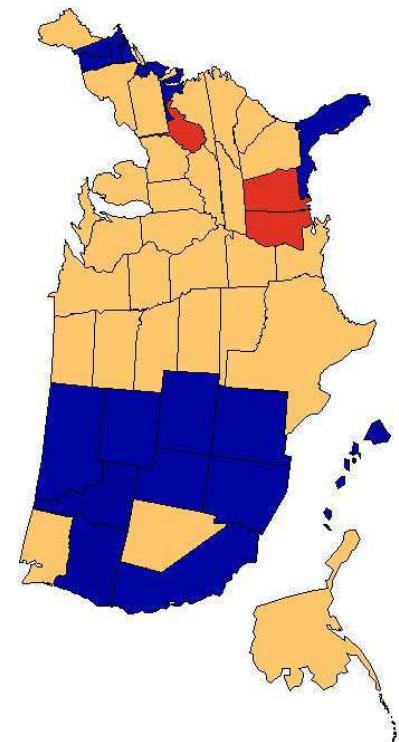
(\*BMI  $\geq 30$ , or  $\sim 30$  lbs overweight for 5' 4" woman)



No Data    <10%    10%-14%

## Obesity Trends\* Among U.S. Adults **BRFSS, 2002**

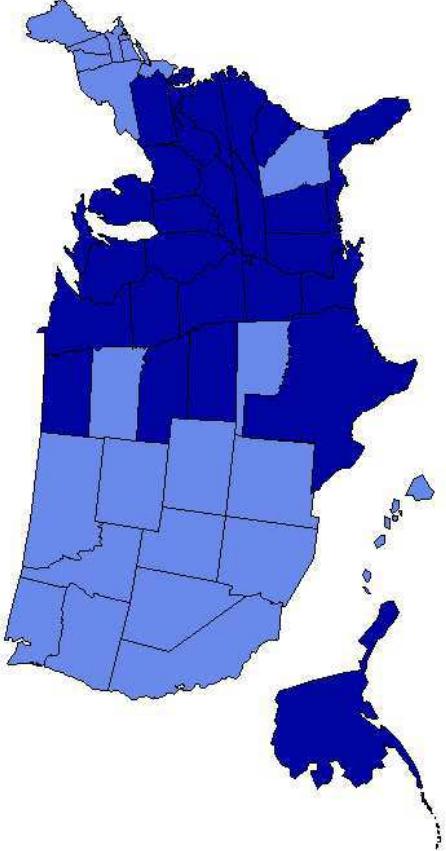
(\*BMI  $\geq 30$ , or  $\sim 30$  lbs overweight for 5' 4" woman)



No Data    <10%    10%-14%    15%-19%    20%-24%    ≥25%

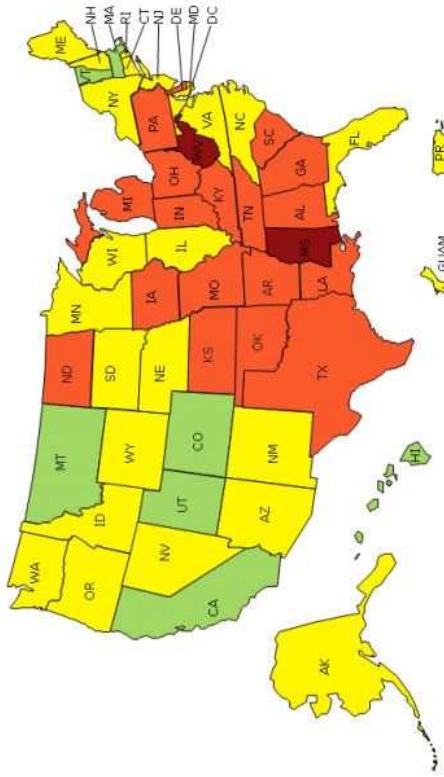
## Obesity Trends\* Among U.S. Adults **BRFSS, 1995**

(\*BMI  $\geq 30$ , or  $\sim 30$  lbs overweight for 5' 4" woman)



No Data    <10%    10%-14%    15%-19%

## Prevalence\* of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2013



No Data    15%-<20%    20%-<25%    25%-<30%    30%-<35%    ≥35%

Source: Behavioral Risk Factor Surveillance Systems, CDC.